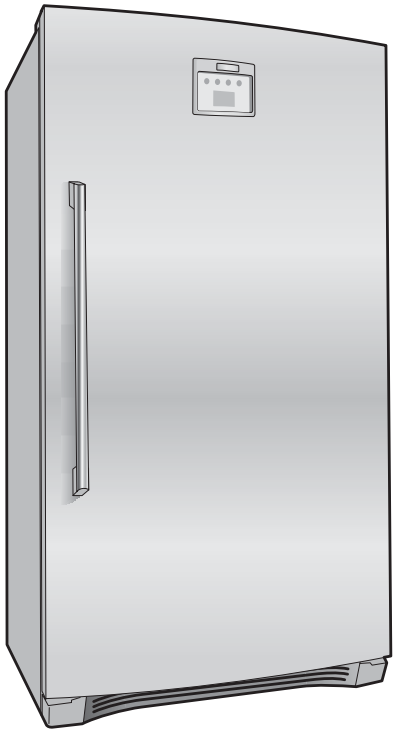
Technical Service Manual

Upright Freezer
EILFU17GS & EILFU21GS



Electrolux

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Section 1

Basic Information

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Safe Servicing Practices

Avoid personal injury and/or property damage by observing important Safe Servicing Practices. Following are some limited examples of safe practices:

1. DO NOT attempt a product repair if you have any doubts as to your ability to complete the repair in a safe and satisfactory manner.
2. Always Use The Correct Replacement Parts as indicated in the parts documentation. Substitutions may defeat compliance with Safety Standards Set For Home Appliances. Do not exceed maximum recommended wattage on light bulb replacements. Doing so could blow fuses and/or damage transformers.
3. Before servicing or moving an appliance:
   - Remove power cord from the electrical outlet, trip circuit breaker to the OFF position, or remove fuse.
   - Turn off water supply.
4. Never interfere with the proper operation of any safety device.
5. Use ONLY REPLACEMENT PARTS CATALOGED FOR THIS APPLIANCE. Substitutions may defeat compliance with Safety Standards Set For Home Appliances.
6. GROUNDING: The standard color coding for safety ground wires is GREEN, or GREEN with YELLOW STRIPES. Ground leads are not to be used as current carrying conductors. It is EXTREMELY important that the service technician reestablish all safety grounds prior to completion of service. Failure to do so will create a hazard.
7. Prior to returning the product to service, ensure that:
   - All electrical connections are correct and secure.
   - All electrical leads are properly dressed and secured away from sharp edges, high-temperature components, and moving parts.
   - All non-insulated electrical terminals, connectors, heaters, etc. are adequately spaced away from all metal parts and panels.
   - All safety grounds (both internal and external) are correctly and securely connected.
   - All panels are properly and securely reassembled

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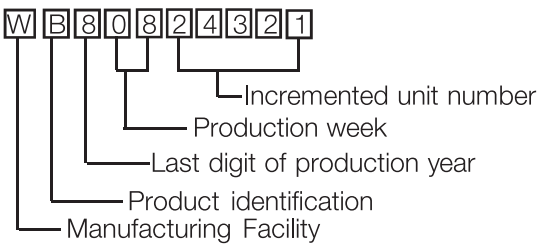
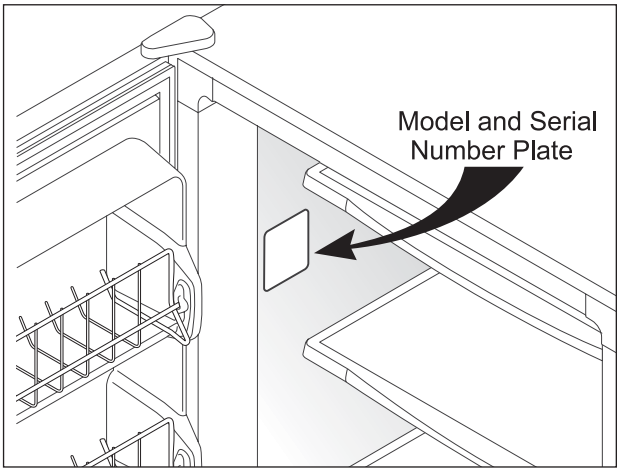
Features	21 Cu. Ft. Upright Freezer EILFU21G S	17 Cu. Ft. Upright Freezer EILFU17G S
Energy Star	Yes	Yes
Total Volume	20.6 Cu. Ft.	16.8 Cu. Ft.
Shelf Area	23.2 Sq. Ft.	20 Sq. Ft.
IQ Touch Electronic Control	Yes	Yes
Digital Exterior Control Center	Yes	Yes
Frost-Free Performance	Yes	Yes
Adjustable Temperature Control	Yes	Yes
Display Temperature Mode	Yes	Yes
Fast Freeze	Yes	Yes
High Temperature Alarm System	Yes	Yes
System Error Alarm	Yes	Yes
Interior Lighting	Yes	Yes
Power On Light	Yes	Yes
Adjustable Glass Shelves	2	2
Fixed Glass Shelves	2	2
Full Access Baskets	3	2
Adjustable Door Bins	2	2
Contour Door Shelves	1	1
Tilt Out Wire Door Shelves	3	2
Automatic Icemaker	Yes	Yes
Lock With Pop Out Key	Yes	Yes
Automatic Door Closer	Yes	Yes
Specifications		
Power Supply Connection	Right Bottom Rear	Right Bottom Rear
Water Inlet Location	Left Bottom Rear	Left Bottom Rear
Voltage Rating	115V/60Hz/15A	115V/60Hz/15A
Connected Load @ 115V	.69	.62
Minimum Circuit Required Amps	15	15
Product Weight	251 Lbs	225 Lbs
Shipping Weight (Approx.)	269 Lbs	240 Lbs

Serial Number Breakdown

The serial plate is located on the left side wall of the freezer interior.


W B 8 0 8 2 4 3 2 1
Incremented unit number
Production week
Last digit of production year
Product identification
Manufacturing Facility

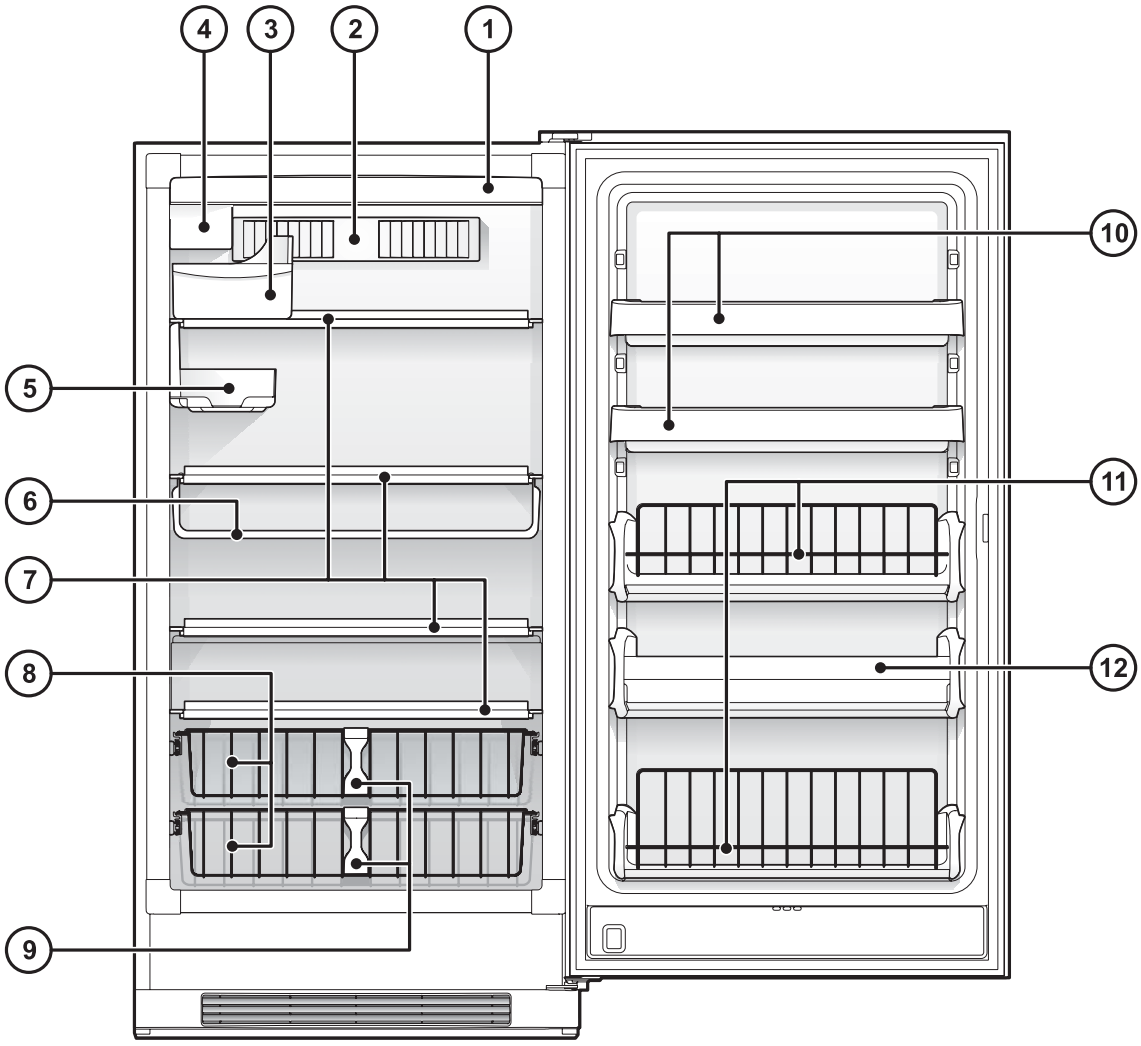


Understanding Features And Terms

Electrolux freezers are designed for optimal convenience and storage flexibility. Use the illustration below to familiarize yourself with product features and terminology.

NOTE: *Features may vary according to model.*

17 CU. FT. MODEL SHOWN



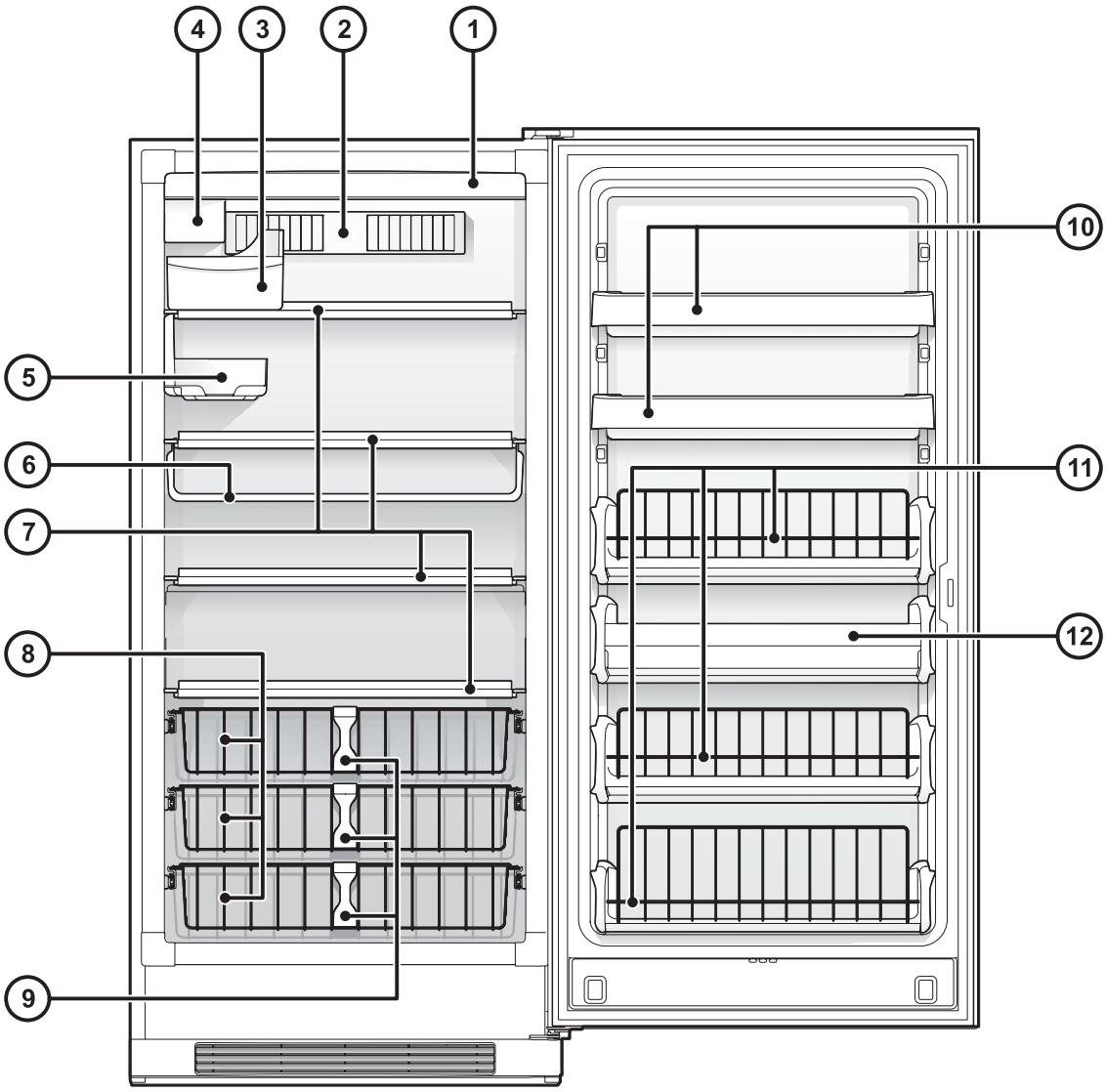
1	LIGHT SHIELD	7	GLASS SHELVES
2	AIR DIFFUSER	8	FULL ACCESS BASKETS
3	ICE BUCKET	9	BASKET DIVIDERS
4	ICE MAKER	10	ADJUSTABLE DOOR BINS
5	SMALL ITEMS SHELF	11	WIRE TILT OUTS
6	PIZZA SHELF	12	CONTOUR DOOR SHELF

Understanding Features And Terms

Electrolux freezers are designed for optimal convenience and storage flexibility. Use the illustration below to familiarize yourself with product features and terminology.

NOTE: *Features may vary according to model.*

21 CU. FT. MODEL SHOWN



1	LIGHT SHIELD	7	GLASS SHELVES
2	AIR DIFFUSER	8	FULL ACCESS BASKETS
3	ICE BUCKET	9	BASKET DIVIDERS
4	ICE MAKER	10	ADJUSTABLE DOOR BINS
5	SMALL ITEMS SHELF	11	WIRE TILT OUTS
6	PIZZA SHELF	12	CONTOUR DOOR SHELF

Section 2

Installation Information

IMPORTANT SAFETY INSTRUCTIONS

Safety Precautions

Do not attempt to install or operate this appliance until you read the safety precautions in this guide. Safety items throughout this guide are labeled with a Warning or Caution based on the risk type.

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

Caution indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

⚠ WARNING

ELECTROLUX CANNOT BE HELD RESPONSIBLE FOR DAMAGE TO PROPERTY OR INJURY TO PERSONS CAUSED BY FAILURE TO COMPLY WITH THE INSTALLATION, MAINTENANCE AND SAFETY INSTRUCTIONS CONTAINED IN THIS SERVICE MANUAL.

⚠ WARNING

TO REDUCE THE RISK OF FIRE, ELECTRICAL SHOCK, OR INJURY WHEN USING YOUR FREEZER, FOLLOW BASIC SAFETY PRECAUTIONS INCLUDING THE FOLLOWING:

- READ ALL INSTRUCTIONS BEFORE OPERATING THE FREEZER.
- BEFORE PERFORMING ANY TYPE OF SERVICE OR INSTALLATION, MAKE SURE THAT ELECTRIC POWER TO THE FREEZER IS DISCONNECTED.
- TO AVOID THE POSSIBILITY OF EXPLOSION OR FIRE, DO NOT STORE OR USE COMBUSTIBLE, FLAMMABLE, OR EXPLOSIVE LIQUIDS OR VAPORS (SUCH AS GASOLINE) INSIDE OR IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE.
- THIS APPLIANCE IS EQUIPPED WITH A THREE-PRONG GROUNDING PLUG FOR PROTECTION AGAINST POSSIBLE ELECTRIC SHOCK HAZARDS. PLUG IT ONLY INTO A DEDICATED, GROUNDED ELECTRICAL OUTLET. WHEN ONLY A STANDARD TWO-PRONG ELECTRICAL OUTLET IS AVAILABLE, THE CUSTOMER MUST HAVE IT REPLACED WITH A DEDICATED, PROPERLY GROUNDED THREE-PRONG ELECTRICAL OUTLET BEFORE USING THIS APPLIANCE. DO NOT UNDER ANY CIRCUMSTANCES, CUT OR REMOVE THE THIRD (GROUND) PRONG FROM THE POWER CORD. DO NOT USE AN ADAPTER PLUG. DO NOT USE AN EXTENSION CORD. DO NOT USE A POWER CORD THAT IS FRAYED OR DAMAGED. THE USE OF A GROUND FAULT INTERRUPTER (GFI) IS NOT RECOMMENDED.
- DO NOT INSTALL OR USE A DAMAGED APPLIANCE. IF YOU RECEIVE A DAMAGED APPLIANCE, IMMEDIATELY CONTACT YOUR DEALER OR BUILDER.
- DO NOT USE THE FREEZER UNTIL IT HAS BEEN PROPERLY INSTALLED BY A QUALIFIED INSTALLER ACCORDING TO THESE INSTALLATION INSTRUCTIONS. THE INSTALLER MUST SHOW THE CUSTOMER THE LOCATION OF THE POWER PLUG SO THAT THEY KNOW WHERE AND HOW TO DISCONNECT POWER TO THE FREEZER.
- DO NOT INSTALL, REPAIR, OR REPLACE ANY PART OF THE FREEZER UNLESS SPECIFICALLY RECOMMENDED IN THE LITERATURE ACCOMPANYING IT. A QUALIFIED SERVICE TECHNICIAN SHOULD PERFORM ALL OTHER SERVICE.

⚠ WARNING

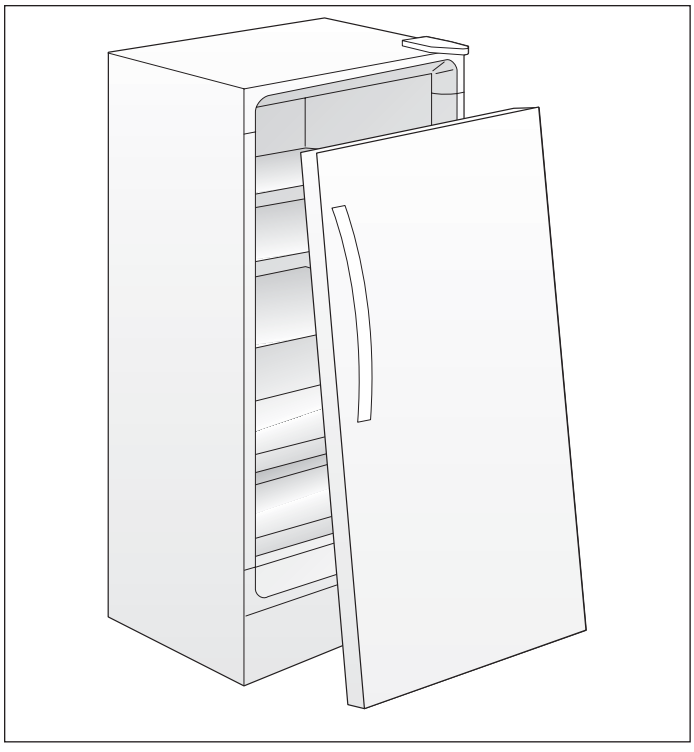
DESTROY CARTON, PLASTIC BAGS, AND ANY EXTERIOR WRAPPING MATERIAL IMMEDIATELY AFTER THE FREEZER IS UNPACKED. CHILDREN SHOULD NEVER USE THESE ITEMS FOR PLAY. CARTONS COVERED WITH RUGS, BEDSPREADS, PLASTIC SHEETS OR STRETCH WRAP MAY BECOME AIR TIGHT CHAMBERS AND CAN QUICKLY CAUSE SUFFOCATION.

A CHILD MIGHT SUFFOCATE IF HE CRAWLS INTO THE FREEZER TO HIDE OR PLAY. REMOVE THE DOOR/LID OF THE FREEZER WHEN NOT IN USE, EVEN IF YOU PLAN TO DISCARD THE FREEZER. MANY COMMUNITIES HAVE LAWS REQUIRING YOU TO TAKE THIS SAFETY PRECAUTION.

REMOVE OR DISCARD ANY SPACERS USED TO SECURE THE SHELVES DURING SHIPPING. SMALL OBJECTS ARE A CHOKE HAZARD TO CHILDREN.

CHILD ENTRAPMENT AND SUFFOCATION ARE NOT PROBLEMS OF THE PAST. JUNKED OR ABANDONED REFRIGERATORS OR FREEZERS ARE STILL DANGEROUS– EVEN IF THEY WILL SIT FOR “JUST A FEW DAYS”. IF YOU ARE GETTING RID OF YOUR OLD REFRIGERATOR OR FREEZER, PLEASE FOLLOW THE INSTRUCTIONS BELOW TO HELP PREVENT ACCIDENTS:

- REMOVE THE DOOR/LID.
- LEAVE SHELVES IN PLACE SO CHILDREN MAY NOT EASILY CLIMB INSIDE.
- HAVE THE REFRIGERANT REMOVED BY A QUALIFIED TECHNICIAN.

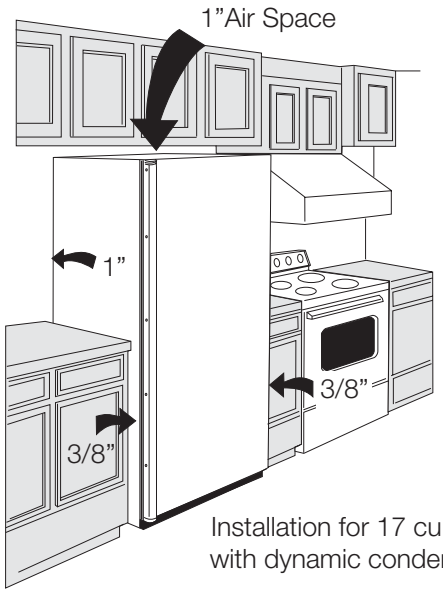


Location

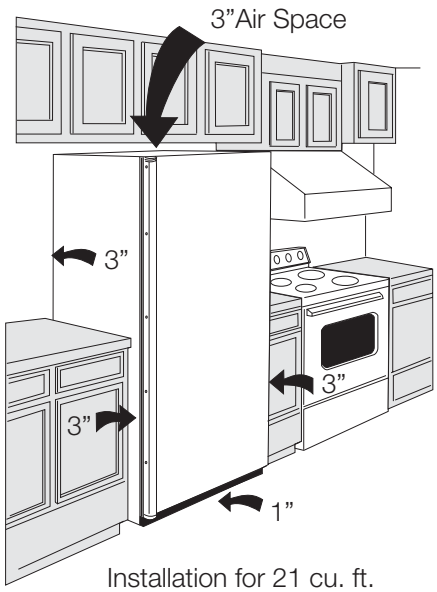
1. Choose a place that is near a grounded electrical outlet. Do Not use an extension cord or an adapter plug.
2. If possible, place the freezer out of direct sunlight and away from the range, dishwasher or other heat sources.
3. The freezer must be installed on a floor that is level and strong enough to support a fully loaded freezer.
4. Consider water supply availability for models equipped with an automatic ice maker.
5. The freezer should be located where surrounding temperature will not exceed 110ºF (43ºC) or drop below 40°F (5°C)
6. For ease of installation, proper air circulation and electrical connections, refer to the illustration for recommended clearances.
7. For dynamic condenser models, DO NOT block the toe grille on the lower front of your freezer. Sufficient air circulation is essential for the proper operation of your freezer.

NOTE

The exterior walls of the freezer may become quite warm as the compressor works to transfer heat from the inside. Temperatures as much as 30°F warmer than room temperatures can be expected.



Installation for 17 cu. ft.
with dynamic condenser



Installation for 21 cu. ft.
without dynamic condenser

Electrical Information

These guidelines must be followed to ensure that safety mechanisms in the design of this freezer will operate properly.

Refer to the serial plate for correct electrical rating. The power cord of the freezer is equipped with at three-prong grounding plug for protection against shock hazards. It must be plugged directly in to its own properly grounded three-prong receptacle, protected with a 15 amp time delay fuse or circuit breaker. The receptacle must be installed in accordance with the local codes and ordinances. Consult a qualified electrician. Receptacles with Ground Fault Circuit Interrupters (GFCI) are NOT RECOMMENDED. DO NOT USE AN EXTENSION CORD OR AN ADAPTER PLUG.

If the voltage varies by 10 percent or more, freezer performance may be affected. Operating the freezer with insufficient power can damage the motor. Such damage is not covered under the warranty. If you suspect your voltage is high or low, consult your power company for testing.

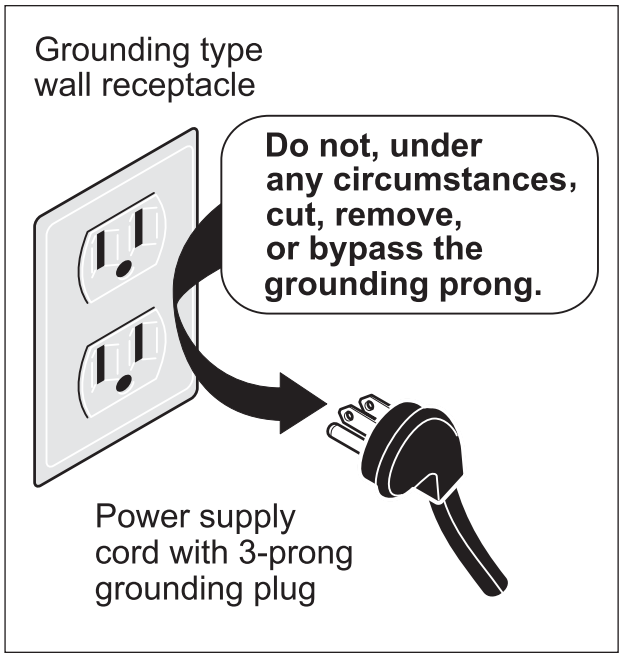
To prevent the freezer from being turned off accidentally, do not plug the unit in to an outlet controlled by a wall switch or pull cord.

Do not pinch, knot, or bend the power cord in any manner.

⚠ WARNING

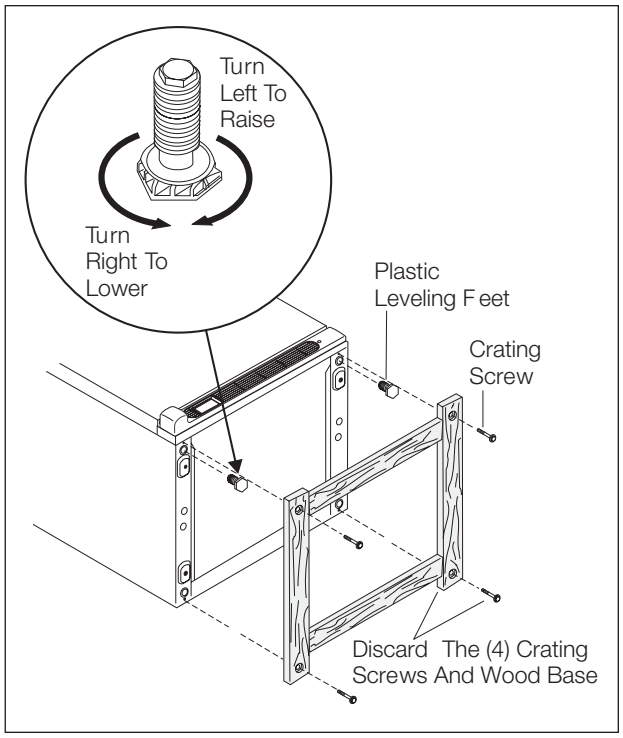
NEVER UNPLUG THE FREEZER BY PULLING ON THE POWER CORD. ALWAYS GRIP THE PLUG FIRMLY AND PULL STRAIGHT OUT FROM THE RECEPTACLE.

TURNING THE CONTROL TO "OFF" TURNS OFF THE COMPRESSOR BUT DOES NOT DISCONNECT POWER TO OTHER ELECTRICAL COMPONENTS.


Grounding type
wall receptacle
Do not, under any circumstances, cut, remove, or bypass the grounding prong.
Power supply cord with 3-prong grounding plug

Leveling

The freezer must have all bottom corners resting firmly on a solid floor. The floor must be strong enough to support a fully loaded freezer. It is VERY IMPORTANT for your freezer to be level in order to function properly. If the freezer is not leveled during installation,the door/lid may be misaligned and not close or seal properly, causing cooling, frost or moisture problems.



To Level Unit

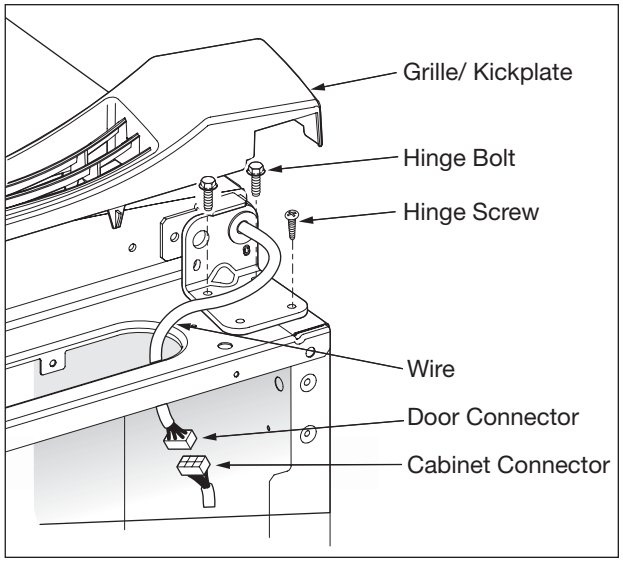
After discarding crating screws and wood base, use a carpenter's level to level the freezer from front to back. Adjust the plastic leveling feet in front, ½ bubble higher, so that the door closes easily when left half way open.

Door Removal

For some installations it may be necessary to remove the door to fit through the entrance of the installation site.

To remove the door, follow the steps below.

1. Make sure electrical plug is disconnected from the wall outlet.
2. Gently lay freezer on its back on a soft clean surface.
3. Lift plastic cover off upper hinge assembly.
4. Using a 3/8" open end wrench or socket, extract screws securing the top hinge to the unit frame.
5. Remove the toe grille by grabbing the toe grille at the top with both hands, then pull away from the unit until toe grille disengages from the unit.
6. Reach under bottom of cabinet and disconnect wire leads of door connector from the cabinet connector.
7. Using a 3/8" open end wrench or socket, extract screws securing the bottom hinge to the unit frame. Use a phillips head screwdriver to extract the remaining screw from the bottom hinge assembly.
8. Lift the door assembly off of the unit frame.



Water Supply

The automatic ice maker requires a permanent water supply to function correctly. During installation, establish this water supply by connecting a copper tube from the household water system to a valve at the rear of the freezer.

What you will need:

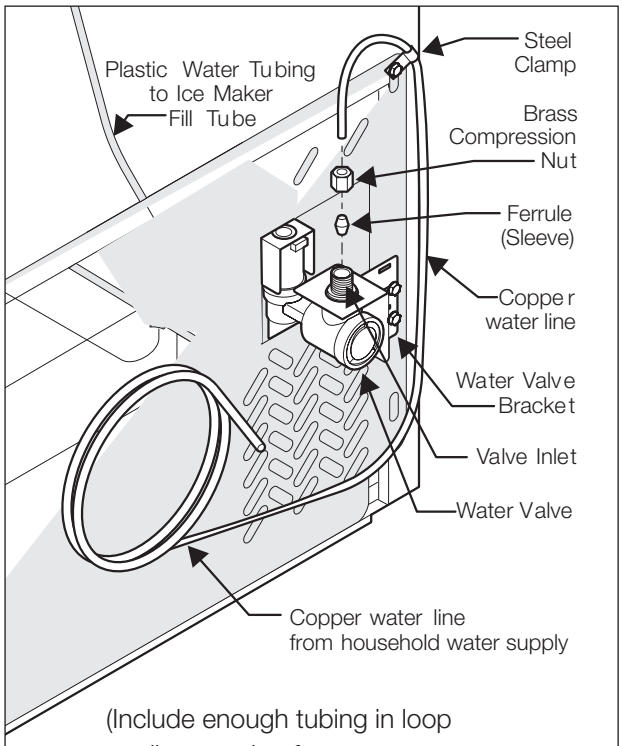
- Access to a cold water line with pressure of 20-120 psi. (System supplied with cold water only.)
- Copper tubing with ¼inch (6.4mm) Outside Diameter (OD). Length for this tubing is the distance from the rear of the freezer to your house hold water supply line plus seven feet (2.1 meters).
- A shut-off valve for the connection between the household water line and the freezer supply line. Do not use a self-piercing shut-off valve.
- A compression nut and ferrule (sleeve) for the water supply connection at the rear of freezer.

NOTE

Kit # 5303917950 is available from your dealer that provides all materials for a water supply installation, including 25 feet of copper tubing, a saddle type shutoff valve, (2) 1/4" brass compression nuts, (2) ferrules/sleeves and full instructions.

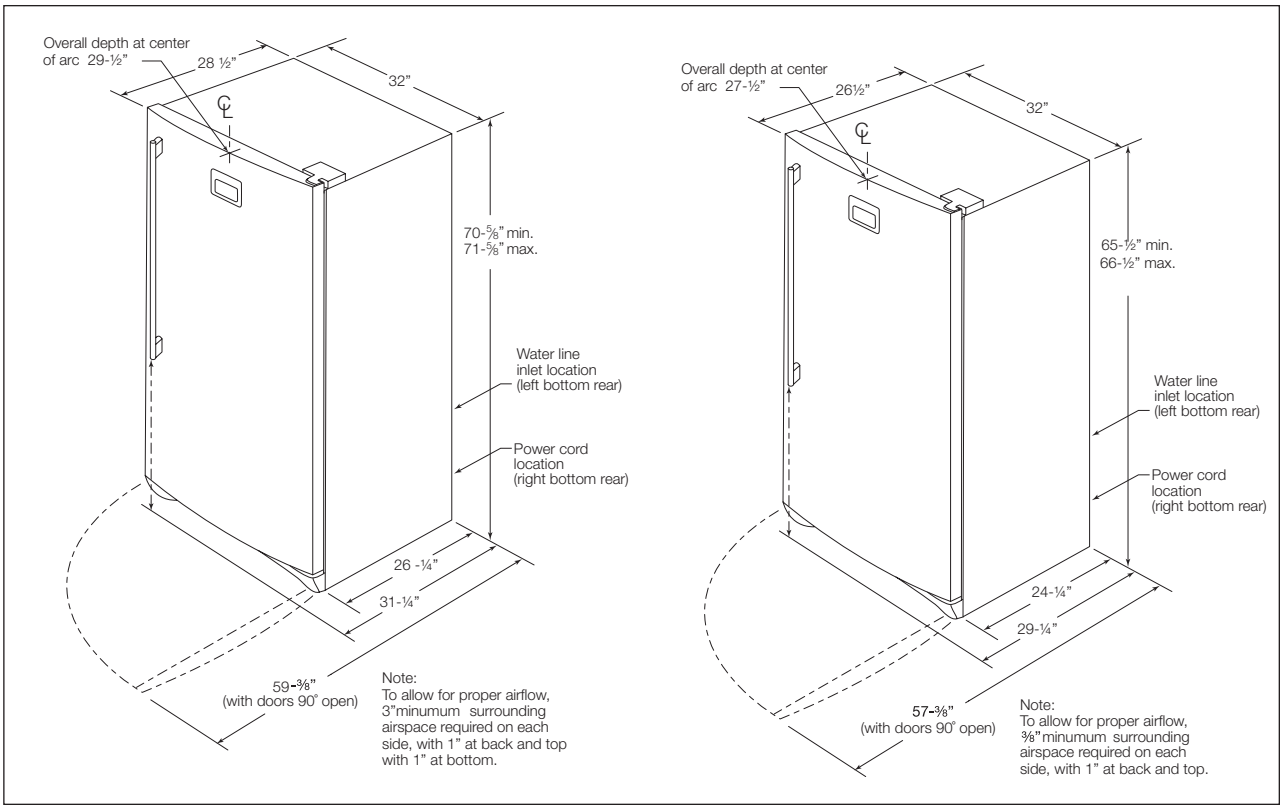
To connect the water supply to the rear of the freezer:

1. Ensure that the freezer is not plugged in.
2. Flush the supply line until water is clear by placing the end of the copper tube in a sink or bucket and opening the shut-off valve. Then turn off water supply at valve.
3. Unscrew the plastic cap from the water valve inlet at the rear of the freezer. Discard the cap.
4. Slide the brass compression nut, then the ferrule (sleeve) onto copper tube.
5. Push the copper tube into water valve inlet as far as it will go (¼ inch).
6. Slide the ferrule (sleeve) into valve and finger tighten the compression nut onto valve. Tighten another half turn with a wrench. Do not over-tighten.
7. Secure the copper tube to your freezer's rear panel with a steel clamp and screw (See Illustration).
8. Coil the excess copper tubing (about 2½ turns) Behind your freezer as shown. Arrange coiled tubing to avoid vibration or wear against other surfaces.
9. Open water supply shut-off valve and tighten any connections that leak.
10. Reconnect power to freezer.
11. Turn icemaker on and lower ice level arm to start icemaker operation.



(Include enough tubing in loop to allow moving freezer out for cleaning)

Unit Dimensions



EILFU21G S
Unit Dimensions

EILFU17G S
Unit Dimensions

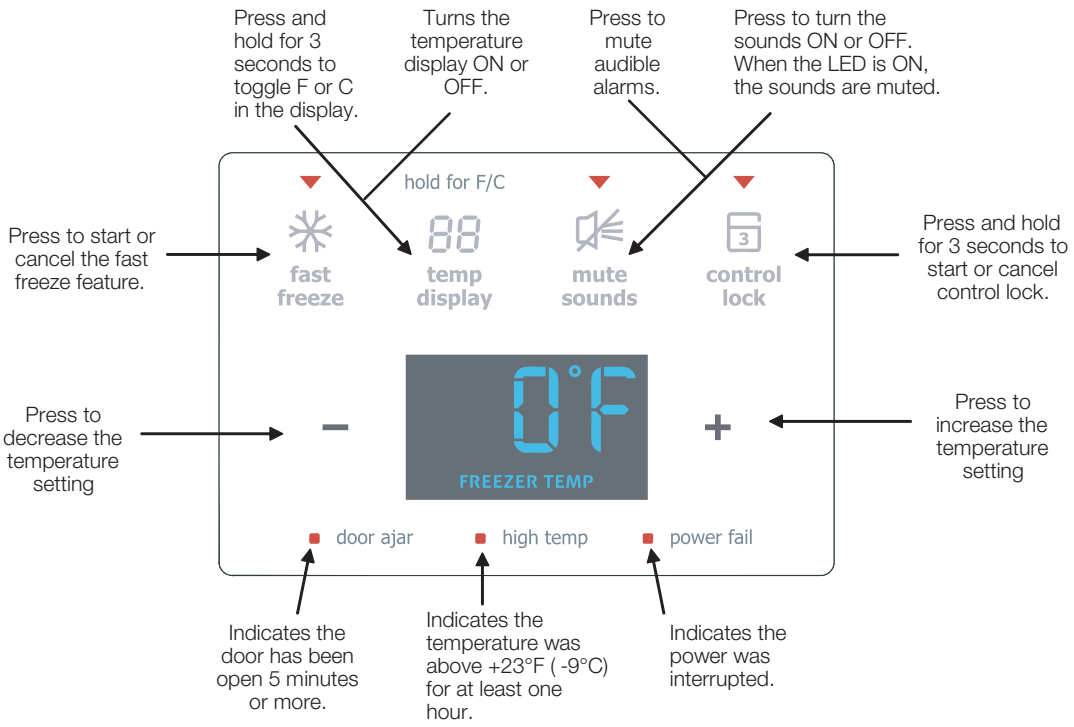
Section 3

Electronic Control

Electronic Temperature Control

The electronic temperature control is located on the freezer door. Temperature is factory preset to provide satisfactory food storage temperatures. Refer to the SETTING FREEZER CONTROL Quick Reference Guide below for more details.

SETTING FREEZER CONTROL


Press and hold for 3 seconds to toggle F or C in the display.
Turns the temperature display ON or OFF.
Press to mute audible alarms.
Press to turn the sounds ON or OFF. When the LED is ON, the sounds are muted.
hold for F/C
Press to start or cancel the fast freeze feature.
fast freeze
temp display
mute sounds
control lock
Press and hold for 3 seconds to start or cancel control lock.
Press to decrease the temperature setting
0°F
FREEZER TEMP
Press to increase the temperature setting
door ajar
high temp
power fail
Indicates the door has been open 5 minutes or more.
Indicates the temperature was above +23°F (-9°C) for at least one hour.
Indicates the power was interrupted.

ALARM FUNCTION TABLE

Display	Priority	Visual Alarm	Alarm Status	Action(s) Required
"HI"	3	"HI Temp" LED ON and **mute sounds** LED flashes	Freezer temperature over the safe limit	Press the **mute sounds** key to stop the audible alarm
Alternating "E1" and temperature	2	**mute sounds** LED flashes; 1 second set temperature, 1 second "E1"	Fail Safe Mode	Check thermistor status
				Press the **mute sounds** key to stop the audible alarm
Alternating "CE" and temperature	1	**mute sounds** LED flashes; 1 second set temperature, 1 second "CE"	Communication Error	Check connection between UI and ECU. Press the **mute sounds** key to stop the audible alarm
Alternating "E2" and temperature	4	**mute sounds** LED flashes; 1 second set temperature, 1 second "E2"	Stuck Key Error	Check membrane keys. Press the **mute sounds** key to stop the audible alarm
Actual Temperature	6	**power fail** LED on and **mute sounds** LED flashes	Cabinet greater than 10 degrees over the SET TEMP. at power up.	Press the **mute sounds** key to stop the audible alarm
Set Temperature	5	**door ajar** LED on and **mute sounds** LED flashes	Door open for more than 5 minutes	Press the **mute sounds** key to stop the audible alarm

NOTE: The unit can reach as low as -35 degrees during the Fast Freeze Mode but ideally the mode is for initial startup and the addition of product during restock.

NOTE: Standard Ice Maker Production; 3.5-4 lbs/24hrs.

NOTE: A more in depth description of the alarms is given on page 3-4.

Normal Operation

The user can select any temperature setting from -10°F to 10°F (-24°C to -12°C). Press the plus (+) key to increment or the minus (-) key to decrement the temperature setting by one degree each key press. If a key is not pressed within 3 seconds, the confirmation tone sounds and the set temperature blinks once before changing to the new temperature setting. The display turns off 10 seconds later.

If the temperature display is OFF, the first press of + or - key displays the current temperature setting. Then pressing the + or - will change the current setting. If the temperature display is ON, the first press of the + or - will change the current setting by one degree.

The OFF setting is the position past the 10°F setting. A confirmation tone is sounded when switching to OFF position. In the OFF position, all functions (compressor, defrost, and alarms) will be disabled except the light control. When a temperature alarm condition is present and the set temperature is changed to the OFF setting, the visual and audible alarms end.

Temperature Display

Press the **temp display** key to toggle temperature display ON or OFF. The default setting is OFF. The acceptance tone sounds when the option is changed. The "FREEZER TEMP" LED on the display is always ON.

Temperature Scale

Press and hold the **temp display** key for 3 seconds to switch between degrees F and degrees C. The confirmation tone sounds after the 3 seconds. Initial default setting is Fahrenheit. Temperature displayed is rounded to the nearest whole number.

If the temperature display is OFF, the display turns on and displays the set temperature and the change in temperature scale. The display returns to OFF state after 3 seconds. If the temperature display is ON, the temperature scale change is visible.

Fast Freeze

Engagement of the fast freeze function turns the compressor on for 72 hours. The fast freeze LED is enabled when fast freeze is engaged and the acceptance tone sounds. The **fast freeze** key toggles the state ON or OFF. The set temperature is displayed if temp display state is ON. The user is allowed to change the set temperature while in fast freeze mode. The new set temperature will be used when the fast freeze cycle is complete. Defrost will function normally during fast freeze. Fast freeze will not engage if the temperature setting is "OFF". If fast freeze is activated during defrost, the LED will turn on but the compressor will not come on until after the defrost cycle is completed. The freezer returns to the previous temperature setting after the 72 hours. Manual defrost is not available while in fast freeze mode.

Control Lock

Press and hold the **control lock** key for three seconds to activate or deactivate the freezer control lockout feature which prevents user key entries. After the three seconds, the confirmation tone sounds and the control lock LED will be displayed indicating that the control is locked. If a key is pressed while locked, the control lock LED will flash twice and the invalid tone will sound. If an alarm occurs while in the locked mode, the mute sounds key will be enabled to mute the alarm. When the lockout is deactivated, the control lock LED will turn off.

Mute Sounds

The **mute sounds** key will enable or disable the audible sounds, i.e. key acceptance and confirmation tones. The default state is mute sounds OFF and the corresponding LED is OFF. When you press **mute sounds** to enable mute feature, the acceptance key tone does not sound. When you press **mute sounds** to disable mute option, the acceptance key tone does sound. When you turn ON the mute sounds, the mute sounds LED turns ON and all tones except alarms are eliminated. When the tones have been muted, the audible alarms will still operate normally. The mute sounds key is also used for muting audible alarms.

Alarms

Temperature Alarm

If the temperature of the cabinet remains above alarm activation temperature of 23.0°F +/- 3 F° (-5°C +/- 2°C) for more than 1 hour, the high temp LED will turn ON, mute sounds LED will flash, the display will show "HI", and the buzzer sounds the alarm tones. "HI" will continue to be displayed until the **mute sounds** key is pressed even if cabinet temperature decreases. The highest temperature will display for 10-seconds. Next, the freezer will display the set temperature if cabinet temperature is not above the upper control limit. If the cabinet temperature is above the upper control limit, the actual cabinet temperature will be displayed until the set temperature is reached. The display will not turn off until the temperature is below the alarm temperature.

Power Fail Alarm

The red power fail LED will illuminate when the microprocessor initiates and the cabinet temperature is greater than 10°F over the set temperature. The current temperature will be displayed and blinking. To acknowledge the alarm, press the **mute sounds** key. The audible alarm and power fail LED will then turn OFF. If the temp display is OFF, the display will turn OFF 10 seconds after the alarm is cleared.

Door Ajar Alarm

When the door is left open for 5 or more minutes, the alarm sounds. The door ajar LED turns ON. The display will not change. Close the door or press the **mute sounds** key to turn the audible alarm off. The door ajar LED remains on until the door is closed.

Communication Error

If a communication error occurs, the freezer will operate in "Fail Safe Mode". The display will alternate between "CE" and set temperature in 1 second intervals. The mute sounds LED flashes. Check connection between UI & ECU. Press the **mute sounds** key to stop the audible alarm. No features will activate during a communication error because the error will prevent proper operation.

Thermistor Error

If a thermistor error occurs, the freezer will operate in "Fail Safe Mode". The display will alternate between "E1" and set temperature in 1 second intervals. The mute sounds LED flashes. Check the thermistor status. Press the **mute sounds** key to stop the audible alarm.

Stuck Key Error

If a key is stuck, the freezer will maintain the current set temperature. The display will alternate between "E2" and set temperature in 1 second intervals. The mute sounds LED flashes. Check membrane keys. Try pressing mute sounds key to stop the audible alarm. The audible indication times out in 30 seconds.

Fail Safe Mode

When the unit goes into Fail Safe mode for a communications or thermistor error, the compressor will run continuously.

Defrost Mode

All models have an automatic defrost mode. Defrost will not engage if the control is in "OFF" position. When defrost is manually initiated or terminated, an audible confirmation beep will occur.

Defrost Timing

After each 12 hours of accumulated compressor run time, a 30 minute defrost cycle is automatically engaged. Before initiating the defrost cycle, the compressor is turned off. The freezer will exit defrost mode after 30 minutes and start cooling to maintain the previous control setting.

Manual Defrost

Changing defrost states has precedence over normal run mode. Defrost can be toggled ON or OFF. Each time defrost mode is changed, it will reset the compressor run time. Defrost state can be changed by pressing and holding both **fast freeze** and **mute sounds** keys simultaneously for 3 or more seconds. The confirmation tone will sound to confirm that the state has changed and "dEF" will display for 3 seconds. If the display is OFF, display returns to OFF state after 3 seconds. The user is allowed to change the set temperature while in manual defrost. The new set temperature will be used when the defrost cycle is complete. Diagnostic mode is not available while in manual defrost.

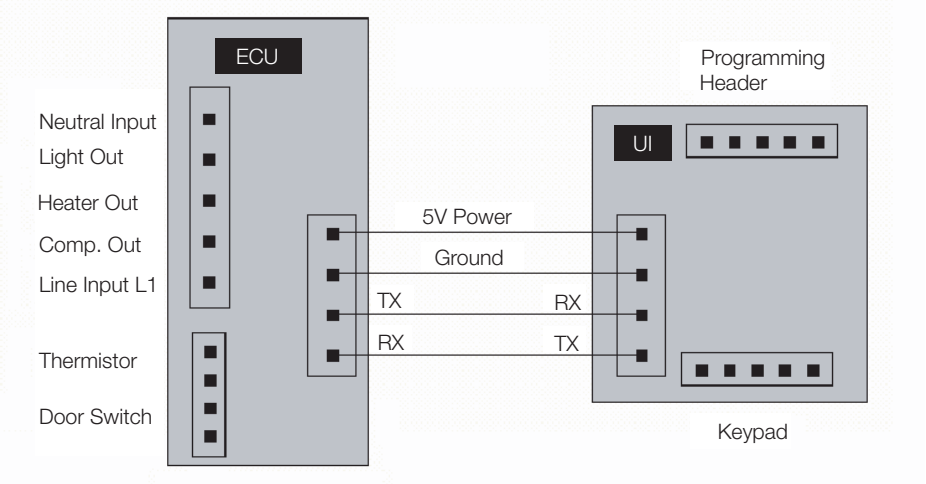
Showroom Mode

Showroom mode allows a sales person to demonstrate the freezer features without turning the compressor on or going through defrost cycles. Set the control to OFF position. Press and hold the + and - keys for 3 seconds to initiate show room mode. The display will show "SS" displaying for 3 seconds and the confirmation tone will sound. All keys should operate normally during showroom mode. The cabinet light will operate during showroom mode but the compressor and defrost heater will remain OFF. Set the control to OFF and press and hold the + and - key for 3 seconds to end the showroom mode. No alarms will occur during showroom mode. The showroom mode is automatically exited after a power failure.

Test Mode

To initiate "Test Mode" the J4 pins should be shorted before power up. All LED segments will illuminate for the duration of 2 seconds. Each key that is pressed on the control will cause an LED to illuminate and stay illuminated while in this mode. A numeric segment will be illuminated in each display with each key press. To test communication, TX would need to be connected to RX. Remove power to exit the test mode.

Press the **fast freeze** key to illuminate the fast freeze LED.
Press the **temp display** key to illuminate the high temp LED.
Press the **mute sounds** key to illuminate the mute sounds LED.
Press the **control lock** key to illuminate the control lock LED.
Press the (minus) "**-**" key to illuminate the door ajar LED.
Press the (plus) "**+**" key to illuminate the power fail LED.



Service Diagnostic Mode

Initiate Service Mode

The service technician should set the temperature to 0 F, then press and hold both the + and - keys simultaneously for 3 seconds.

When the diagnostics mode is entered, the number "88" is displayed and the confirmation tone is sounded. The status information will be displayed for 3 seconds and then return to the diagnostics indicator.

Model Identification

Press the plus (+) key to display the model number.

Once you have displayed the model ID, press and hold the plus (+) and **fast freeze** keys for 3 or more seconds to select the option to change the model ID. The model ID will increment or decrement by pressing the + or - key. The model ID can be saved immediately by pressing **mute sounds** key.

Model Description	Model #
U21F	0
C20, C25	1
U20F, U17F	2
U14F, C14F	3
Undefined	4

Software Version

Press the **fast freeze** key to display the production software version for the model. (The limitation is 00 - 99 production software versions per model.) The minus and 2 digit version number "-xx" is displayed.

Door Switch Status

Press the "-" key to display the door switch status.

If the door switch is open, the letter "**dO**" is displayed.

If the door switch is closed, the letter "**dC**" is displayed.

Thermistor Status

Press the mute sounds key to display the thermistor status.

If the thermistor is operating properly, the characters "**- -**" are displayed.

If the thermistor is open, the letter "**tO**" is displayed.

If the thermistor is shorted, the letter "**tS**" is displayed.

The thermistor status is not updated in showroom mode. The characters "**- -**" are always displayed

Reset Factory Defaults

Press the **fast freeze** key while the software version is displayed to reset all EEPROM values to the factory defaults. The model ID will not be affected. The user interface will exit diagnostics mode and automatically restart in normal power up operation.

Exit Diagnostic Mode

To exit service mode, the service technician should press and hold both the + and - keys simultaneously for 3 or more seconds. The buzzer beeps at the end of 3 seconds.

Section 4

Refrigeration System

NOTE

Instructions given here are furnished as a guide. Persons attempting to use these instructions to make repairs to the sealed refrigeration system should have a working knowledge of refrigeration and previous training on sealed system repair, and an EPA certification for servicing refrigeration systems.

IMPORTANT

Effective July 1, 1992, the United States clean air act governs the disposal of refrigerants such as R-134a. Therefore, when discharging or purging the sealed system use an EPA approved refrigerant recovery system as outlined in the final rule on the protection of stratospheric ozone and refrigerant recycling, which was published in the Federal Register May 14, 1993.

NOTE

Electrolux does not permit the use of recovered refrigerant in the servicing of our products for in-warranty and out-of-warranty repairs or for products covered by service contracts. Therefore, only new refrigerant or refrigerant that has been reclaimed back to new specifications by a refrigerant manufacturer is to be used.

Definitions

Recovery:

To remove refrigerant in any condition from a system and store it in an external container without necessarily testing or processing it in any way.

Recycling:

To clean refrigerant for reuse by oil separation and single or multiple passes through devices, such as replaceable core filter-driers, which reduce moisture, acidity and particulate matter. This term usually applies to procedures implemented at the field job site or at a local service shop.

Reclaim:

To reprocess refrigerant to new product specifications by means which may include distillation, will require chemical analysis of the refrigerant to determine that appropriate product specifications are met. This term usually implies the use of processes or procedures available only at a reprocessing or manufacturing facility.

Safety Warnings

Compressor Testing

Whenever testing a compressor, extreme caution should be used to prevent damaging the terminals. A compressor with a damaged terminal or a grounded winding can expel a terminal from its insulated housing when the compressor is energized. If this happens, a mixture of refrigerant and oil will be released that could be ignited by an external heat source (open flame, heater, etc.). Also, if there is air in the system when this happens, a spark at the compressor shell could ignite the refrigerant and oil mixture.

Charging Sealed Systems

Overcharging a refrigeration system with refrigerant can be dangerous. If the overcharge is sufficient to immerse the major parts of the motor and compressor in liquid refrigerant, a situation has been created which, when followed by a sequence of circumstances can lead to the compressor shell seam separating.

A hydraulic block occurs, preventing the compressor from starting. This condition is known as locked rotor. Electric current continues to flow through the compressor motor windings which become, in effect, electric resistance heaters. The heat produced begins to vaporize the excess refrigerant liquid causing a rapid increase in system pressure. If the compressor protective devices fail, the pressure within the system may rise to extremes far in excess of the design limits. Under these conditions, the weld seam around the compressor shell can separate with explosive force, spewing oil and refrigerant vapor which could ignite.

To eliminate this exceedingly rare but potential hazard, never add refrigerant to a sealed system. If refrigerant is required, evacuate the existing charge and recharge with the correct measured amount of the refrigerant specified for the system.

⚠ WARNING

WEAR APPROVED SAFETY GLASSES WHEN WORKING WITH OR ON ANY PRESSURIZED SYSTEM OR EQUIPMENT. HAVE AN APPROVED DRY TYPE FIRE EXTINGUISHER HANDY WHEN USING ANY TYPE OF GAS OPERATED TORCH.

1. All joints to be soldered must have proper fit. Clearance between tubes to be soldered should be from .001" to .006". It is not practical to actually measure this; however, you do not want a dry fit or loose fit. Tubing joints should overlap about the distance of their diameter except for restrictor tubes, which should be inserted 1.25".
2. Clean all joint areas with fine steel wool or preferably an abrasive cloth, such as grit cloth No. 23 or Scotch-Brite.
3. Apply a thin film of liquid flux recommended for silver soldering to surfaces to be joined and to surfaces immediately adjacent to joint.

⚠ CAUTION

During application of heat, use wet cloths to prevent heat from conducting to areas other than the soldered joint. Use a sheet of metal or torch guard pad as a heat deflector to keep flame away from inflammable materials and painted surfaces.

4. Align tubing so no stress is on joint. Do not move tubing while solder is solidifying or leaks will result.
5. Use a torch of adequate capacity so joint can be quickly heated with a minimum of heat travel to other points. Use a good grade of silver solder.
6. Solder connections. If tubing is properly cleaned and fluxed, solder will flow readily. Use only enough solder to make a good bond.
7. Allow joint to cool, then wash exterior with water to remove flux.

Basic Components

The basic components of a refrigerator are a compressor, condenser, evaporator, heat exchanger (capillary tube and suction line), drier and perimeter hot tube.

Perimeter Hot Tube

To reduce the possibility of condensation forming on the exterior of the cabinet in high humidity areas, a perimeter hot tube (refrigerant tube) has been installed in the unit. The perimeter tube extends up the left side,across the top of the freezer and down the right side into the filter drier. When the compressor operates, warm refrigerant flows through the primary condenser, then into the primary hot tube, warming the cabinet front exterior.

The perimeter hot tube is not replaceable. In the unlikely event of a leak in the hot tube, a kit is available to bypass the hot tube in the sealed system. An electrical heater wire must be installed within the tubing. Refer to the appropriate parts list of the model being serviced for the correct kit part number.

Refrigerant Cycle

The refrigerant cycle is a continuous cycle that occurs whenever the compressor is in operation. Liquid refrigerant is evaporated in the evaporator by the heat that enters the cabinet through the insulated walls and by the heat from product load and door openings. The refrigerant vapor is then drawn from the evaporator, through the suction line to the compressor. Compression raises the pressure and temperature of the vapor in the compressor and the vapor is then forced through the discharge valve into the discharge line and into the condenser. Air passing over the condenser surface removes heat from the high pressure vapor which then condenses to a liquid. The liquid refrigerant then flows from the condenser to the evaporator through the small diameter liquid line (capillary tube). Before it enters the evaporator, the liquid refrigerant is sub-cooled in the heat exchanger by the low temperature suction vapor in the suction line. When refrigerant is added, the frost pattern will improve, the suction and discharge pressures will rise, the condenser will become hot and the wattage will increase.

Low/High Side Leak or Undercharge

A loss of refrigerant can result in any of the following:

1. Excessive or continuous compressor operation.
2. Above normal freezer compartment temperature.
3. A partially frosted evaporator (depending on amount of refrigerant loss).
4. Below normal freezer compartment temperature.
5. Low suction pressure (vacuum).
6. Low wattage.

The condenser will be “warm to cool”, depending on the amount of refrigerant lost.

In the case of a low side refrigerant leak resulting in complete loss of refrigerant, the compressor will run but will not refrigerate. Suction pressure will drop below atmospheric pressure and air and moisture will be drawn into the system saturating the filter drier.

If there is reason to believe the system has operated for a considerable length of time with no refrigerant and the leak occurred in the low side of the system, excessive amounts of moisture may have entered the system. In such cases the two stage service Dryer Filter part number 5303918288 and vacuum procedure listed under Refrigerant Leaks need to be followed to prevent repetitive service.

If a slight undercharge of refrigerant is indicated and no leak can be found after a thorough leak test, the charge can be corrected without changing the compressor.

If a high side leak is located and some refrigerant remains in the system it is not necessary to change the compressor.

Testing for Refrigerant Leaks

NOTE

The line piercing valve (clamp-on type) should be used for test purposes only. It must be removed from system after it has served its purpose.

If the system is diagnosed as short of refrigerant and the system has not been recently opened, there is probably a leak in the system. Adding refrigerant without first locating and repairing the leak or replacing the component will not permanently correct the difficulty. The leak must be found. Sufficient refrigerant may have escaped to make it impossible to leak test effectively. In such cases, add a ¼” line piercing valve to the compressor process tube. Add sufficient refrigerant vapor to increase the pressure to 40 to 50 lb. per sq. in. Check the low side for leaks. Run the compressor 2 or 3 minutes and check the high side for leaks. Recover refrigerant using an EPA approved recovery system.

Compressor Replacement

To check for contamination, obtain oil sample from old compressor.

1. If the oil has burned odor, but no color change or residue — follow instructions on page 4-6 “Installing A New Compressor”.
2. If oil has a burned odor and a sugar or gritty feel as well as showing signs of contamination (dark color), follow instructions in next section, To Flush The System. Remove as much of contamination as possible from system before installing new compressor and filter-drier.

⚠ CAUTION

NEVER install a new compressor without first checking for possible system contamination.

NOTE

It is recommended that system be flushed with dry Nitrogen. However, if refrigerant is used to flush the system you must look at the serial plate to see what type of refrigerant is used in the system. This is the only refrigerant that can be used to flush the system and it must be recovered.

To Flush The System

⚠ CAUTION

Use extreme care when using Dry Nitrogen to flush systems. Pressure in nitrogen cylinder could be as high as 2000 psi. Nitrogen cylinder must be equipped with approved pressure regulator and pressure relief valve. Ensure that your hoses have adequate ratings for pressure involved and that all of your equipment is in good condition. The end of the flushing hose on this tank regulator must be equipped with a hand shut-off valve (Robinair No. 40380). Close hand shut-off valve and adjust nitrogen regulator to correct pressure before proceeding with flushing procedure.

To Use Dry Nitrogen To Flush The System:

1. Remove compressor and filter-drier. Connect process coupling to outlet tube of condenser.
2. Fasten cloth over other end of coil to prevent old oil from spraying over room.
3. Connect hand shut-off valve on flushing hose to process coupling.
4. Slowly open hand shut-off valve and allow nitrogen to flow through condenser until discharge is clear.

⚠ CAUTION

DO NOT exceed 300 PSIG.

5. Disconnect cap tube from evaporator. Flush evaporator in same manner as condenser.

⚠ CAUTION

DO NOT exceed 150 PSIG.

6. Flush cap tube. This is only possible if you have proper service valve adapter.

⚠ CAUTION

DO NOT exceed 300 PSIG.

7. Reassemble system.

To Use Refrigerant To Flush The System:

⚠ CAUTION

Refrigerant used for flushing must be recovered into a recovery system. Meter amount of refrigerant used for flushing with your charging cylinder. DO NOT OVERFILL THE BAG.

1. Disconnect the suction and discharge lines from the compressor and remove the filter-drier. Connect process coupling to outlet and inlet tube of condenser.
2. Connect hose to outlet process coupling and charging cylinder. Connect another hose to inlet coupling and recovery system.
3. Open charging cylinder and allow refrigerant to flow through condenser until discharge into bag is clear.

NOTE

The line piercing valve (clamp-on type) should be used for test purposes only. It must be removed from system after it has served its purpose.

4. Disconnect capillary tube from evaporator. Flush evaporator in same manner as condenser.
5. Flush cap tube. This is only possible if you have proper service valve adapter.
6. Reassemble system.

Installing a New Compressor

NOTE

Entirely new compressors have been developed or use with R-134a and Ester oil refrigeration systems. Both compressor and electric motor have been modified. Old compressors intended for R-12 refrigerant must not be used for new systems charged with R-134a.

Replacement of compressor and installation of filter-drier must be done in a continuous sequence so system is exposed to atmosphere no longer than necessary.

All replacement compressors are shipped with rubber plugs in the suction, discharge and process tubes and contain the correct oil charge and a holding charge of inert gas. Compressors have a low-side process tube attached to the compressor shell. A high-side process tube is attached to the filter-drier.

⚠ WARNING

DO NOT OPERATE RECIPROCATING COMPRESSOR WHEN CHARGING LIQUID REFRIGERANT INTO SYSTEM THROUGH ITS PROCESS TUBE.

Replacement compressors for refrigerator may have an oil cooler even if the original compressor did not. If the product is not equipped for an oil cooler, leave the plastic caps in place and install the compressor connecting only to the suction and discharge lines of the new compressor.

Before installing the replacement compressor remove the discharge plug and check for the pop sound of the inert gas leaving the compressor.

⚠ CAUTION

DO NOT use compressor if you do not hear this sound.

If the compressor checks OK, reinstall the plug. Do not remove any of the plugs again until the compressor is in position and you are ready to braze the lines.

⚠ CAUTION

On R-134a systems, compressor must NOT be left open to atmosphere for more than 10 minutes to prevent moisture contamination of oil.

NOTE

The following instructions are generalized to help the technician understand the procedures of sealed system repairs. See Section 5 Component Teardown on the exact steps of accessing the components of the refrigeration system.

A new compressor which is cold (e.g. after having been kept in a cold service van) should be left to warm to the surrounding temperature before the plugs on the compressor connections are removed. This will help prevent condensation from forming in the oil and the compressor. Also, avoid opening the system when any of the components or lines are cold.

NOTE

Release holding charge (release slowly to avoid oil discharge) on new compressor to ensure there is no leak in seam or tubing. Reinstall rubber plug.

1. Disconnect electrical supply to refrigerator.
2. Remove compressor access panel.

NOTE

If low-side process tube is too short, silver solder four inch piece of tubing onto process tube at this time.

3. Remove all components needed to pull the compressor assembly from the unit.
4. Pull compressor assembly straight out.
5. Recover refrigerant by using EPA approved recovery system.
6. Remove leads from compressor motor terminals.
7. Remove mounting clips and washers.
8. After refrigerant is completely recovered, cut suction and discharge lines as close to compressor as possible. Leave only enough tubing to pinch off and seal defective compressor. Plug or tape any open system tubing to avoid entrance of moisture and air into system. Remove inoperable compressor and transfer mounting parts to new compressor.
9. Install new compressor in exact same manner as original compressor.

10. Reform both suction and discharge lines to align with new compressor. If they are too short, use additional lengths of tubing. Joints should overlap 0.5" to provide sufficient area for good solder joint. Clean and mark area where tubing should be cut. Cut tubing with tubing cutter. Work as quickly as possible to avoid letting moisture and air into system.
11. Solder all connections according to soldering procedure.
12. Remove original filter-drier.

⚠ CAUTION

DO NOT unbraze old filter-drier from system. This will vaporize and drive moisture from desiccant back into system. The old filter-drier should be cut out of system.

13. Install new filter-drier at condenser outlet.
14. Evacuate and charge system using recommended procedure described under Evacuating and Recharging.
15. Reconnect compressor terminal leads in accordance with refrigerator wiring diagram.
16. Reassemble unit.

Condenser Replacement

NOTE

The following instructions are generalized to help the technician understand the procedures of sealed system repairs. See Section 5 Component Teardown on the exact steps of accessing the components of the refrigeration system.

1. Disconnect electrical supply to refrigerator.
2. Remove compressor access panel.
3. Recover refrigerant by using EPA approved recovery system.
4. Remove condenser fan mounting screws.
5. Unplug fan motor harness located in back of fan motor.
6. Remove fan motor and fan blade.
7. After refrigerant is completely recovered, disconnect inlet and discharge lines from condenser.
8. Lift front of condenser and pull out of retainers mounted to the drain pan.
9. Remove old condenser out the back of cabinet.
10. Install replacement condenser.
11. Remove original filter-drier.

⚠ CAUTION

DO NOT unbraze old filter-drier from system. This will vaporize and drive moisture from desiccant back into system. The old filter-drier should be cut out of system.

12. Install new filter-drier at condenser outlet.
13. Evacuate and charge the system using recommended procedure described under Evacuating and Recharging.
14. Reassemble unit.

Filter-Drier Installation

Any time the sealed system is opened and the refrigerant charge is removed, the liquid line filter-drier must be replaced and the system thoroughly evacuated before

⚠ CAUTION

DO NOT unbraze old filter-drier from system. This will vaporize and drive moisture from desiccant back into system. The old filter-drier should be cut out of system.

NOTE

The following instructions are generalized to help the technician understand the procedures of sealed system repairs. See Section 5 Component Teardown on the exact steps of accessing the components of the refrigeration system.

1. Disconnect electrical supply to freezer.
2. Recover refrigerant by using EPA approved recovery system.
3. Using a 3 cornered file, score a groove around capillary tube as close to old filter-drier as possible. Break capillary tube along score mark from filter-drier.
4. Cut condenser outlet tube at filter-drier. Discard filter-drier.
5. Thoroughly clean condenser outlet tube and capillary tube.
6. Place inlet connection of filter-drier over condenser tube approximately ¼" and solder.
7. Insert capillary tube input end into filter-drier outlet. Do not allow tube to bottom against screen. Solder carefully so that solder does not plug capillary tube.
8. Install process tube adapter to filter-drier.
9. Evacuate and charge system using the recommended procedure described under Evacuating and Recharging.
10. Reassemble unit.

Evaporator and Suction Line Replacement

NOTE

The following instructions are generalized to help the technician understand the procedures of sealed system repairs. See Section 5 Component Teardown on the exact steps of accessing the components of the refrigeration system.

1. Disconnect electrical supply to refrigerator.
2. Recover refrigerant by using EPA approved recovery system.
3. Remove shelving.
4. Remove evaporator cover.
5. Remove evaporator from its installation position.
6. Cut or remove suction line from compressor.
7. Cut filter-drier from condensing unit.
8. Remove sealant from cabinet where suction line enters.
9. Remove evaporator and suction line as one piece.
10. Install new evaporator with attached suction line.
11. Seal cabinet.
12. Install new filter drier at condenser outlet.
13. Evacuate and charge system using the recommended procedure described under Evacuating and Recharging.

⚠ CAUTION

Check the serial plate for the correct refrigerant type. It is extremely important to verify the type of refrigerant in the system before starting any sealed system repairs.

With the possible exception of the vacuum pump, all service equipment that comes in contact with R-134a during evacuation and recharging must be dedicated. Accordingly, R-134a will require a dedicated charging cylinder, manifold gauge set, process tube adapters, and hoses. Any residual mineral oil on other tools (tubing cutter, etc.) must be thoroughly cleaned off before using on R-134a/Ester oil systems. It will be necessary to check with the manufacturer of your vacuum pump for refrigerant and oil compatibility issues.

If you use a vacuum pump with mineral oil to evacuate an R-134a system, it is ABSOLUTELY ESSENTIAL to have a shut-off valve between the pump and your manifold gauge set as shown on page 4-11. The hand valve must be closed during all times when the vacuum pump is not operating. This will prevent the migration of mineral oil vapor into the R134a/Ester oil system. If the vacuum pump should stop during evacuation for any reason, the hand pump shut-off valve must be closed immediately.

Insure that your refrigeration hoses are specified for use with R-134a refrigerant. Research has shown that compounds in standard refrigeration hoses may enter sealed systems and ultimately restrict the cap tube in an R-134a system.

Equipment Needed for Evacuation & Recharging:

- Heated charging cylinder
- Standard 3-port manifold gauge set:
  - 4 charging hoses
  - Tee fitting with valve core stem removed (Robinair No. 40396)
  - Hand shut-off valve (Robinair No.40380)
- Two stage vacuum pump
- Process tube adapter kit (Robinair No.12458)
- Tubing cutter
- Pinch-off tool capable of making leak proof seal
- Complete brazing torch set
- Small 3-corner file
- Grit cloth or Scotch-Brite
- 45% silver solder and flux
- Heat Gun

Installing Evacuation and Recharging Equipment

1. Disconnect freezer from electrical supply.
2. If compressor was replaced, install correct sized process tube adapter on process tube. If compressor was not replaced, cut process tube with tubing cutter leaving as much tube as possible and install correct size process tube adapter.
3. Install correct sized process tube adapter on high-side process tube.
4. Attach refrigeration service gauge manifold to system in following order:
   - Low-side (compound gauge) hose to suction side process tube adapter.
   - High-side (pressure gauge) hose to high-side process tube adapter.
   - Center port manifold hose before hand shut-off valve to charging cylinder.
   - Center port manifold hose after hand shut-off valve to vacuum pump.

⚠ WARNING

R-134A SYSTEMS ARE PARTICULARLY SUSCEPTIBLE TO MOISTURE CONTAMINATION WHICH CAN ONLY BE PREVENTED BY EVACUATING THE SYSTEM FOR A MINIMUM OF 30 MINUTES TO ATTAIN A MINIMUM 29.9 INCH (500 MICRON OR LOWER) VACUUM.

Evacuating System

To achieve the required levels of evacuation, a properly maintained two stage vacuum pump in good condition is required. It is absolutely essential to maintain your vacuum pump according to the manufacturer's instructions including required oil changes at the recommended intervals. Vacuum pump oil should always be changed after evacuating a contaminated system.

Vacuum pump performance should be checked periodically with a micron gauge.

1. Make certain that charging cylinder valve, hand shut-off valve, and manifold gauge valves are closed.
2. Start vacuum pump.
3. Open hand shut-off valve and slowly open both manifold valves, turning counterclockwise, for two full rotations.

⚠ CAUTION

If high vacuum equipment is used, just crack both manifold valves for a few minutes and then open slowly for the two full turns counterclockwise. This will prevent the compressor oil from foaming and being drawn into the vacuum pump.

4. Operate vacuum pump for a minimum of 30 minutes to a minimum of 29.9" (500 micron) vacuum.
5. Close hand shut-off valve to vacuum pump. Watch compound gauge for several minutes. If reading rises, there is a leak in the system, go to step 6. If no leak is indicated, stop vacuum pump. System is now ready for charging.
6. If a leak is indicated, stop vacuum pump and introduce a small charge of refrigerant into system by cracking valve on bottom of charging cylinder until system is pressurized to 40 or 50 lbs psig.
7. Leak test low-side. Close compound gauge. Run compressor for a few minutes and leak test high-side. When leak is found, recapture refrigerant using EPA approved recovery system Repair and go back to step 1.

Charging The System

⚠ CAUTION

Check the serial plate for the correct refrigerant type. It is extremely important to verify the type of refrigerant in the system before starting any sealed system repairs. After charging the system with liquid be certain to wait at least 5 minutes before starting the compressor to give the refrigerant a chance to disperse throughout the system. Otherwise the compressor could be damaged by attempting to pump excessive quantities of liquid.

Preparing The Charging Cylinder:

1. Make certain that hand shut-off valve to vacuum pump is closed.
2. Close high-side manifold gauge valve.
3. Set charging cylinder scale to pressure indicated on cylinder pressure gauge.
4. Observe refrigerant level in sight glass. Subtract amount to be charged into system and note shut off point.
5. Open charging cylinder valve slowly and allow proper charge to enter system.
6. As soon as refrigerant in sight glass has gone down to predetermined level, close charging cylinder valve.

⚠ WARNING

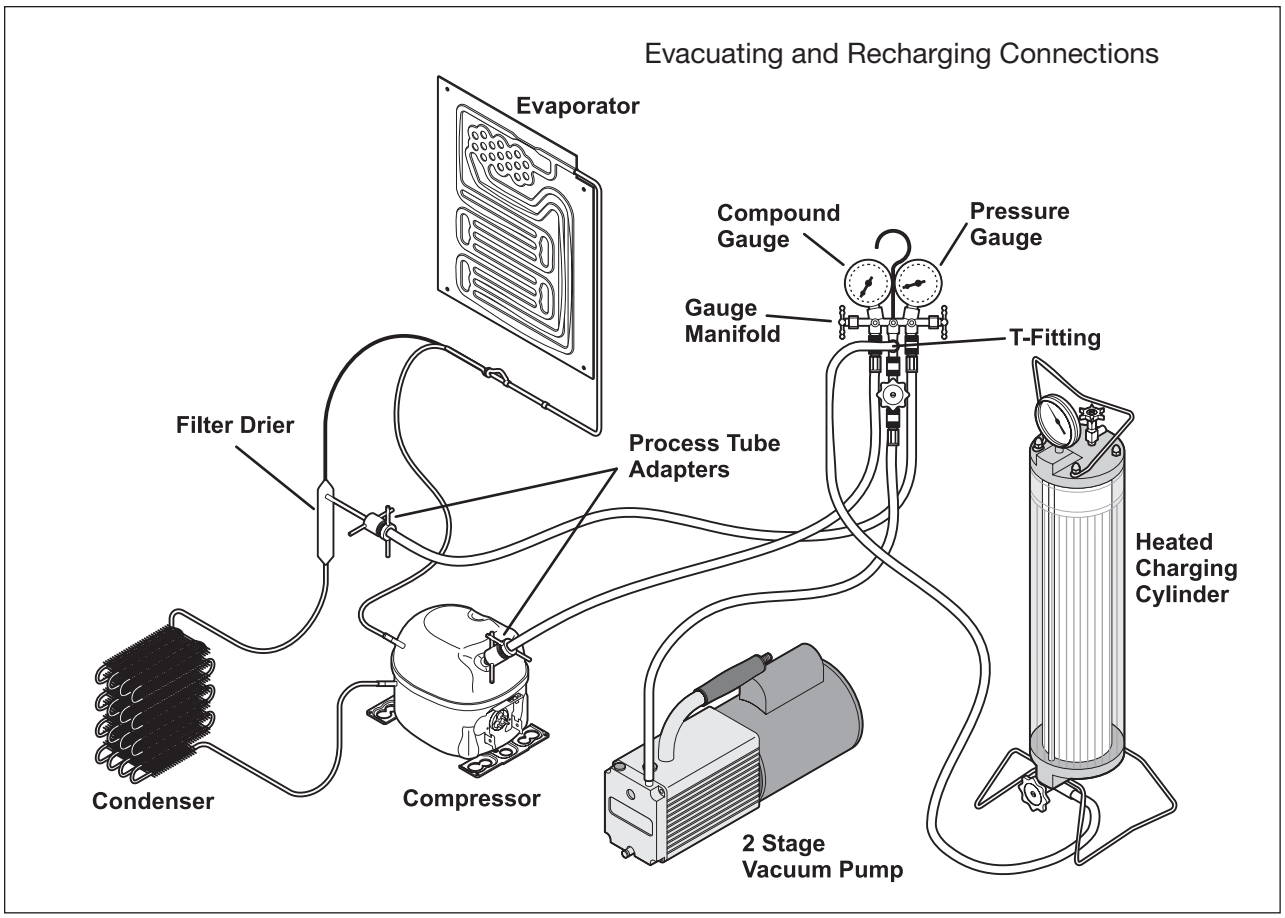
DISCONNECT THE CHARGING CYLINDER HEATER AT THIS TIME TO PREVENT THE CYLINDER PRESSURE FROM EXCEEDING ITS MAXIMUM LIMITS.

7. Allow system to sit for five minutes.
8. Turn on refrigerator compressor. Run compressor for a few minutes and monitor system pressures.
9. When satisfied that the unit is operating correctly, clamp the high-side process tube with the pinch-off tool while the unit is still running.

10. Slowly open the high-side manifold gauge valve to allow the compressor to remove any refrigerant trapped in the high-side hose and the process fitting.
11. Close both of the manifold gauge valves. If the high-side gauge reading rises, the pinch-off must be corrected before proceeding.
12. Remove the high-side process tube adapter and solder the process tube closed.
13. Clamp the low-side process tube with the pinch-off tool while the unit is running. Remove the low-side process tube adapter and solder the process tube closed.
14. Check the process tubes for refrigerant leaks.

Final Leak Test

1. With the refrigerator turned OFF leak test all low-side system components.
2. Turn the unit ON and run until the condenser is warm. Leak test the high-side system components.



NOTE

Instructions given here are furnished as a guide. Persons attempting to use these instructions to make repairs to the sealed refrigeration system should have a working knowledge of refrigeration and previous training on sealed system repair.

Verify Refrigerant Type In The System

⚠ CAUTION

R-134a and R-12 are completely incompatible. Before starting any sealed system repair, it is extremely important to check serial plate of product to verify the type of refrigerant in the system.

Dedicated Equipment

R-134a must not be mixed with other types of refrigerants. R-134a must be recovered in dedicated and properly identified recovery bags and tanks.

It will be necessary to check with the manufacturer of your recovery equipment to determine R-134a compatibility. Some recovery equipment manufacturers have changeover instructions for switching between refrigerant types. Protect yourself and your equipment by following all manufacturer guidelines.

Also, ensure that your refrigeration hoses are specified for use with R-134a refrigerant. Research has shown that compounds in standard refrigeration hoses may enter sealed systems and ultimately restrict the cap tube in an R-134a system.

R-134a Refrigeration Systems

The sealed refrigeration system will consist of the same basic components being utilized in the R-12 systems.

There is a 10% to 15% discharge pressure increase using R-134a, with a 5% to 10% decrease in suction pressure when compared to the same product with an R-12 system operating at 90°F (32°C) ambient temperature conditions. Lower suction pressures result from the lower density of R-134a refrigerant which effects refrigerant flow rate. R-134a systems commonly operate in a 1”-2” vacuum on the suction side.

Products using R-134a refrigerant will generally have a longer capillary tube to maintain a similar flow rate and some models will have a larger condenser to reduce the discharge pressures and lower start-up sound transmission.

Miscibility of R-134a and Ester Oil

A special synthetic oil known as Ester oil is used as a lubricant in refrigeration systems operating on R-134a. Ester oils are produced from alcohols and fatty acids and are available in several different variants. Ester oils have a pleasant aroma reminiscent of fruit.

Ester oils generally include various types of additives for improving certain properties such as viscosity, temperature sensitivity, etc. These additives are often aggressive, and skin contact with Ester oils should therefore be avoided.

One of the most important requirements made on a refrigerant system is that the oil mix with the refrigerant. Since mineral oil and ordinary synthetic oil DO NOT mix with R-134a, Ester oil is used for lubrication. Ester oil dissolves in R-134a.

Ester oil is broken down by chlorine and cannot be used with R-12 (R-12 contains chlorine) or any other compound containing chlorine. Therefore, R-134a refrigeration systems have virtually no tolerance for chlorine molecules from CFC refrigerants (R-134a is an HFC and contains no chlorine).

⚠ CAUTION

During R-134a service, it is extremely important to avoid using equipment that may contain residual amounts of mineral oil, CFC’s or HCFC’s which could enter and contaminate the sealed system.

For example, hoses that were used for a refrigeration system operating on R-12 may contain small quantities of mineral oil which can block the capillary tube in a system operating on R-134a. As little as one milligram may be sufficient to cause a blockage. In addition, sealed system components that have been used with CFC systems must not be used with R-134a systems. These components may contain residual amounts of refrigerant and oil which could damage an R-134a system.

At the earliest stage of development work on R-134a, tests were carried out on a different type of synthetic oil known as Poly-Alkaline Glycol (PAG). This oil is also used in certain air conditioning systems for cars. PAG and Ester oil DO NOT mix with one another. Service equipment used for R-134a / Ester oil must not come into contact with PAG.

Water In The Refrigeration System

Even in very small quantities, water in any refrigeration system can cause the following problems:

- Ice plugs in capillary tubes.
- Copper plating in compressor.
- Reactions with organic materials in systems.
- Corrosion of metals.

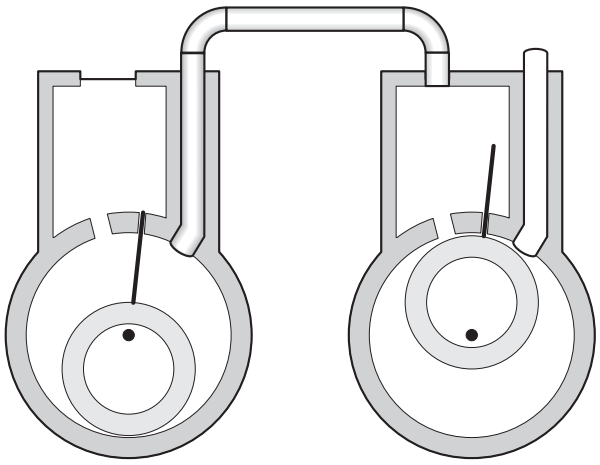
R-134a and Ester oil will aggravate the problem of water in the refrigeration system. Ester oil may react with water vapor and is hygroscopic (it will absorb water if it comes in contact with humid air). Water is also more soluble in R-134a than R-12.

To minimize the water content whenever service work is performed, the refrigeration system should always be thoroughly evacuated through process tube adapters on both the high and low sides of the system. Evacuation must be for a minimum of 30 minutes to at least a 29.9 inch (500 micron) vacuum.

VACUUM CHART		
Vacuum Inches Hg.	Microns	Boiling Point of Water °F
28.940	25000	77.9
29.530	10000	52.0
29.832	4600	32.0
29.882	1000	1.0
29.901	500	-11.2
29.915	150	-32.8
29.917	100	-38.2
29.919	50	-49.0

To achieve the required 29.9 inch (500 micron) vacuum, a properly maintained two-stage vacuum pump in good condition is required. A two stage pump can reach a deeper vacuum than a single stage because the exhaust from the first pumping stage is discharged into the second pumping stage. This means the second stage begins pumping at a lower pressure so a lower ultimate vacuum can be achieved.

2-Stage Vacuum Pump



Vacuum Pump Maintenance

It is absolutely essential to maintain your vacuum pump according to the manufacturer's instructions including required oil changes at the recommended intervals. Vacuum pump oil should always be changed after evacuating a contaminated system. Vacuum pump performance should be checked periodically with a micron gauge.

Vacuum pump suppliers may or may not recommend changing the vacuum pump oil to the same type that's in the system being evacuated. Some manufacturers may recommend a vacuum pump that's dedicated to R-134a systems.

Robinair has stated that their current and discontinued vacuum pump models, using mineral oil currently specified for use in their vacuum pumps, can be used to evacuate R-134a/Ester oil systems. Robinair also states that it is acceptable to alternate between evacuating R-12/mineral oil and R-134a/Ester oil systems without adversely effecting the vacuum pump's performance.

For other brands of vacuum pumps, check with the manufacturer for restrictions and guidelines when using with R-134a.

⚠ CAUTION

If you use a vacuum pump with mineral oil to evacuate an R-134a system, it is ABSOLUTELY ESSENTIAL to have a shut-off valve between pump and your manifold gauge set as shown on page 4-11. The hand valve must be closed during all times when vacuum pump is not operating. This will prevent migration of mineral oil vapor into R134a/Ester oil system. If vacuum pump should stop during evacuation for any reason, the hand pump shut-off valve must be closed immediately.

Refrigerant Leaks

A system with R-134a and Ester oil will become saturated with moisture much faster than a system with R-12 and mineral oil. If your leak was in the low side of the refrigeration system when the compressor is running the pressure in the low side will go into a vacuum. As additional refrigerant leaks out the system will go deeper into a vacuum. The system running in this vacuum will allow air and moisture to be pulled into the sealed system. The moisture pulled in can then be mixed in to the Ester oil in the compressor.

If the product has had a low side leak you will need to install the two stage service dryer filter part number 5303918288. You must heat the crankcase area of the compressor using a heat gun on the high heat setting throughout the 30 minutes you are running your vacuum pump to pull a vacuum on the system. Every 4 to 5 minutes while you are running your vacuum pump and heating the crankcase area shake the compressor. By heating the crankcase you are heating the oil in the compressor. This will drive the moisture out of the oil. By shaking the compressor this will allow the moisture to come to the top of the oil faster so the vacuum pump can remove the moisture from the system.

Electrolux Home Products does not approve the use of the Sweep Charge for sealed system repair. This method of servicing sealed systems is often used to repair products in the field. The Sweep Charge does not adequately remove moisture from the oil in the compressor. In a R-134a system you will need to replace the compressor if the product has had a low side leak and you are servicing with the Sweep Charge procedure.

R-134a refrigerant molecules are smaller than R-12 molecules. This means that R-134a will pass more minor leaks and the rate of flow will be greater than for R-12. Therefore, it is now more important than ever to follow good brazing practices. Use a good grade of silver solder. A 45% silver solder is recommended.

Leak Detection

R-134a system leaks can be pinpointed by means of an electronic leak detector or by bubble solution.

Electronic leak detectors for R-134a service are currently available from several manufacturers. The least expensive models are non-selective detectors that will detect any type of emission or vapor present, regardless of its chemical composition. Some non-selective detectors designed for use with R-12 may have a much lower sensitivity when used with R-134a. However, newly designed detectors with good R-134a sensitivity are now available. Be sure to consult with the manufacturer before selecting or using a non-selective detector with R-134a.

Halogen-specific detectors use a specialized sensor that allows detection of compounds containing chlorine, fluorine, bromine, and iodine without being activated by other species. The major advantage of this type of detector is a reduction in the number of “nuisance alarms”. Halogen-specific detectors are generally more expensive than non-selective detectors but feature higher sensitivity.

R-134a properties

The properties of R-134a are very similar to those of R12. The principal data for the two refrigerants are shown in the chart below.

	REFRIGERANTS	
	R-12	R-134a
NAME	Dichlorodifluoro-methane	1,1,1,2--Tetra-fluoromethane
Formula	CCl_2F_2	$CH_2F\text{-}CF_3$
Molecular Weight (g/mol)	120.93	102.3
Ozone Depletion Potential (ODP)	1	0
Global Warming Potential (GWP)	3.1	0.3
Boiling Point °F	-21.6	-15.7
Vapor Pressure (77°F)	80 psig	82 psig
Flammability	None	None
Solubility of Water in Refrigerant (wt% @ 77°F)	0.009	0.11

HFC-134a, CFC-12 Pressure Temperature Chart

°F	°C	HFC-134a	CFC-12		°F	°C	HFC-134a	CFC-12
-60	-51.1	21.8*	19.0*		55	12.8	51.1	52.0
-55	-48.3	20.4*	17.3*		60	15.6	57.3	57.7
-50	-45.6	18.7*	15.4*		65	18.3	63.9	63.8
-45	-42.8	16.9*	13.3*		70	21.1	70.9	70.2
-40	-40.0	14.8*	11.0*		75	23.9	78.4	77.0
-35	-37.2	12.5*	8.4*		80	26.7	86.4	84.2
-30	-34.4	9.8*	5.5*		85	29.4	94.9	91.8
-25	-31.7	6.9*	2.3*		90	32.2	103.9	99.8
-20	-28.9	3.7*	0.6		95	35.0	113.5	108.3
-15	-26.1	0.0	2.4		100	37.8	123.6	117.2
-10	-23.3	1.9	4.5		105	40.6	134.3	126.6
-5	-20.6	4.1	6.7		110	43.3	145.6	136.4
0	-17.8	6.5	9.2		115	46.1	157.6	146.8
5	-15.0	9.1	11.8		120	48.9	170.3	157.7
10	-12.2	12.0	14.6		125	51.7	183.6	169.1
15	-9.4	15.0	17.7		130	54.4	197.6	181.0
20	-6.7	18.4	21.0		135	57.2	212.4	193.5
25	-3.9	22.1	24.6		140	60.0	227.9	206.6
30	-1.1	26.1	28.5		145	62.8	244.3	220.3
35	1.7	30.4	32.6		150	65.6	261.4	234.6
40	4.4	35.0	37.0		155	68.3	279.5	249.5
45	7.2	40.0	41.7		160	71.1	298.4	265.1
50	10.0	45.3	46.7		165	73.9	318.3	281.4

Inhalation Toxicity

HFC-134a poses no acute or chronic hazard when it is handled in accordance with DuPont recommendations and when exposures are maintained at or below the DuPont Acceptable Exposure Limit (AEL) of 1,000 ppm (8 and 12 hour Time-Weighted Average or TWA).

An AEL is an airborne exposure limit established by DuPont scientists that specifies time-weighted average (TWA) airborne concentrations to which nearly all workers may be repeatedly exposed without adverse effects. The AEL for HFC-134a has the same value as the Threshold Limit Values (TLVs) established for CFC-12 and HCFC-22. TLVs are established by the American Conference of Governmental and Industrial Hygienists (ACGIH).

However, inhaling high concentrations of HFC-134a vapor may cause temporary central nervous system depression with narcosis, lethargy and anesthetic effects. Other effects that may occur include dizziness, a feeling of intoxication and a loss of coordination. Continued breathing of high concentrations of HFC-134a vapors may produce cardiac irregularities (cardiac sensitization), unconsciousness, and with gross overexposure, death. Intentional misuse or deliberate inhalation of HFC-134a may cause death without warning. This practice is extremely dangerous.

If you experience any of the initial symptoms, move to fresh air and seek medical attention.

Cardiac Sensitization

If vapors are inhaled at a concentration of 75,000 ppm, which is well above the AEL, the heart may become sensitized to adrenaline, leading to cardiac irregularities and, possibly, to cardiac arrest. The likelihood of these cardiac problems increases if you are under physical or emotional stress.

Medical attention must be given immediately if exposed to high concentrations of HFC-134a. DO NOT treat with adrenaline (epinephrine) or similar drugs. These drugs may increase the risk of cardiac arrhythmia and cardiac arrest. If the person is having difficulty breathing, administer oxygen. If breathing has stopped, give artificial respiration.

Spills or Leaks

If a large release of vapor occurs, such as from a large spill or leak, the vapors may concentrate near the floor or low spots and displace the oxygen available for breathing, causing suffocation.

Evacuate everyone until the area has been ventilated. Use blowers or fans to circulate the air at floor level. DO NOT re-enter the affected area unless you are equipped with a self-contained breathing apparatus or unless an area monitor indicates that the concentration of HFC-134a vapors in the area is below the AEL.

Always use self-contained breathing apparatus or an air-line mask when entering tanks or other areas where vapors might exist. Use the buddy system and a lifeline. Refer to the Material Safety Data Sheet (MSDS) for HFC-134a for more information.

HFC-134a vapors have a slightly sweet odor that can be difficult to detect. Therefore, frequent leak checks and the installation of permanent area monitors may be necessary in enclosed spaces. Refer to ASHRAE Standards 15 and 34 for refrigeration machinery rooms.

To ensure safety when working with HFC-134a in enclosed areas:

1. Route relief and purge vent piping (if present) outdoors, away from air intakes.
2. Make certain area is well ventilated, using auxiliary ventilation if needed to move vapors.
3. Make sure area is clear of vapors prior to beginning work.
4. Install air monitoring equipment to detect leaks.

Skin and Eye Contact

At room temperature, HFC-134a vapors have little or no effect on the skin or eyes. However, in liquid form, HFC-134a can freeze skin or eyes on contact, causing frostbite. Following contact, soak the exposed area in lukewarm water, not cold or hot. If medical treatment cannot begin immediately, apply a light coat of a nonmedicated ointment, such as petroleum jelly. If the exposed area is in a location where the presence of the ointment would be awkward, such as on the eye, apply a light bandage. In all cases of frostbite, seek medical attention as soon as possible.

Always wear protective clothing when there is a risk of exposure to liquid HFC-134a. Where splashing is possible, always wear eye protection and a face shield.

Combustibility of HFC-134a

HFC-134a is nonflammable at ambient temperatures and atmospheric pressure. However, tests have shown HFC-134a to be combustible at pressures as low as 5.5 psig (139.3 kPa absolute) at 177°C (350°F) when mixed with air at concentrations generally greater than 60% volume air. At lower temperatures, higher pressures are required for combustibility. (HCFC-22 is also combustible at pressures above atmospheric in the presence of high air concentrations). Test results and calculations have shown:

- At ambient temperature, all concentrations of HFC-134a in air are nonflammable at pressures below 15 psig (205 kPa absolute).
- Combustible mixtures of air and HFC-134a will not form when liquid HFC-134a is pumped into closed vessel if initial air pressure in vessel is limited to one atmosphere absolute and final pressure is limited to 300 psig (2,170 kPa absolute). If initial air pressure is greater than one atmosphere, combustible mixtures may form as tank is filled.

Based on above information, the following operating practices are recommended:

Leak Testing

- Equipment should NEVER be leak tested with a pressurized mixture of HFC-134a and air. HFC-134a may be safely pressured with dry nitrogen.

Bulk Delivery and Storage

- Tanks should normally be evacuated at start of filling, and should never be filled while under positive air pressure.
- Tank pressure should never be allowed to exceed 300 psig (2,170 kPa) when filling with HFC-134a. Relief devices on either tanks or HFC-134a supply system usually prevent this.
- Tank pressures should be monitored routinely.
- Air lines should never be connected to storage tanks.

Filling and Charging Operations

- Before evacuating cylinders or refrigeration equipment, any remaining refrigerant should be removed by recovery system.
- Vacuum pump discharge lines should be free of restrictions that could increase discharge pressures above 15 psig (205 kPa) and result in formation of combustible mixtures.
- Cylinders or refrigeration equipment should normally be evacuated at start of filling, and should never be filled while under positive air pressure.
- Final pressures should not exceed 300 psig (2,170 kPa).
- Filled cylinders should periodically be analyzed for air (nonabsorbable gas or NAG).

Refrigerant Recovery Systems

Efficient recovery of refrigerant from equipment or containers requires evacuation at the end of the recovery cycle. Suction lines to a recovery compressor should be periodically checked for leaks to prevent compressing air into the recovery cylinder during evacuation. In addition, the recovery cylinder pressure should be monitored, and evacuation stopped in the event of a rapid pressure rise indicating the presence of noncondensable air. The recovery cylinder contents should then be analyzed for NAG, and the recovery system leak checked if air is present. DO NOT continue to evacuate a refrigeration system that has a major leak.

Thermal Decomposition

HFC-134a vapors will decompose when exposed to high temperatures from flames or electric resistance heaters. Decomposition may produce toxic and irritating compounds, such as hydrogen fluoride. The pungent odors released will irritate the nose and throat and generally force people to evacuate the area. Therefore, it is important to prevent decomposition by avoiding exposure to high temperatures.

Section 5

Component Teardown

COMPONENT TEARDOWN

This section explains how to access and remove components from an Electrolux Upright Freezer, and has been arranged in such a way as to simulate which components would need to be removed first in order to gain access to other components. When following a component removal procedure, it may be necessary to reference another component removal procedure listed earlier in this section.

IMPORTANT NOTE: *Before continuing, please take note of the* ***WARNINGS*** *and* ***CAUTIONS*** *below.*

⚠ WARNING

- IF IT IS NECESSARY TO REMOVE AN UPRIGHT FREEZER UNIT FROM ITS INSTALLATION, USE PROPER LIFTING TECHNIQUES AS UNITS ARE HEAVY AND COULD FALL RESULTING IN SERIOUS INJURY OR DEATH. PULLING A UNIT FROM ITS INSTALLATION SHOULD ONLY BE PERFORMED BY A TRAINED AUTHORIZED SERVICE TECHNICIAN OR INSTALLER.
- TO AVOID ELECTRIC SHOCK, POWER TO AN UPRIGHT FREEZER UNIT MUST BE DISCONNECTED WHENEVER ACCESSING AND/OR REMOVING COMPONENTS POWERED BY ELECTRICITY OR COMPONENTS NEAR OTHER ELECTRICAL COMPONENTS.
- AFTER SERVICE IS COMPLETED, BE SURE ALL SAFETY-GROUNDING CIRCUITS ARE COMPLETE, ALL ELECTRICAL CONNECTIONS ARE SECURE, AND ALL ACCESS PANELS ARE IN PLACE.
- IF UNIT WAS USED PRIOR TO SERVICE, THE COMPRESSOR ASSEMBLY WILL BE HOT. WEAR PROTECTIVE GLOVES AND THE APPROPRIATE SAFETY GEAR WHEN WORKING WITH COMPRESSORS.
- IF REMOVING A DOOR OR DRAWER FROM A UNIT, REMEMBER THAT DOORS AND DRAWERS ARE HEAVY. IF THEY WERE TO FALL, THEY COULD CAUSE SERIOUS PERSONAL INJURY.

⚠ CAUTION

- Metal edges may be sharp. Use caution and wear appropriate safety equipment when servicing evaporators and condensers to avoid personal injury.
- If working in the compressor area, remember that compressor and tubing may be hot.

Exterior Components

Door Handle

The door handle is secured with setscrews to the handle mounting shoulder screws that are fastened into the front of the door assembly.

To remove the handle, use a 3/32” allen wrench and extract the setscrew located in each handle standoff. Pull handle assembly from door assembly. (See Figure 5-1)

Use a 5/32” allen wrench to extract the screw located inside the handle standoff, that secures the handle standoff to the handle.

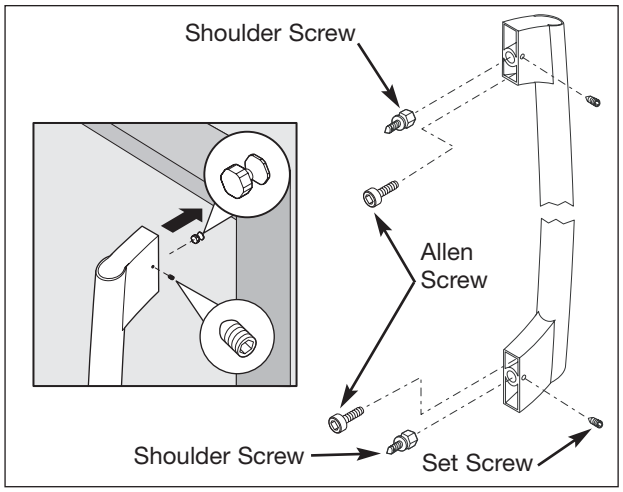


Figure 5-1. Handle Removal

Kickplate Removal

The kickplate has tabs that locate within the oval holes located under the door assembly.

To remove the kickplate, squeeze the top and bottom of the kickplate and pull out from the unit. (See Figure 5-2)

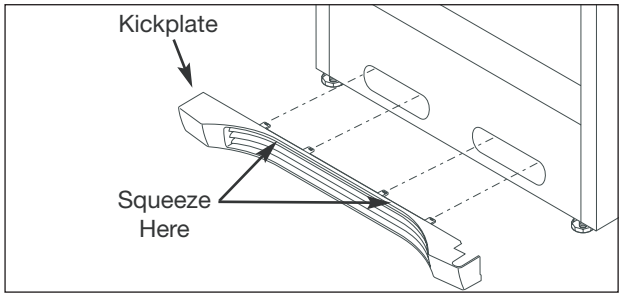


Figure 5-2. Kickplate Removal

Door Hinge and Door Assembly Removal

The door assembly is secured to the unit frame by an upper and lower hinge assembly. The wiring harness leading out through the lower hinge assembly must be disconnected from the wire harness before the door assembly can be removed.

To remove the door assembly:

1. Gently lay freezer on its back on a soft clean surface.
2. Lift plastic cover off upper hinge assembly. (See Figure 5-3)
3. Using a 3/8” open end wrench or socket, extract screws securing the upper hinge to the unit frame.
4. Remove the grille/kickplate by grabbing the grille/kickplate at the top with both hands, then pull away from the unit until grille/kickplate disengages from the unit. (See Figure 5-4)
5. Reach under bottom of cabinet and disconnect wire leads of door connector from the cabinet connector.
6. Using a 3/8” open end wrench or socket, extract screws securing the lower hinge to the unit frame. Use a phillips head screwdriver to extract the remaining screw from the lower hinge assembly.
7. Lift the door assembly off of the unit frame.

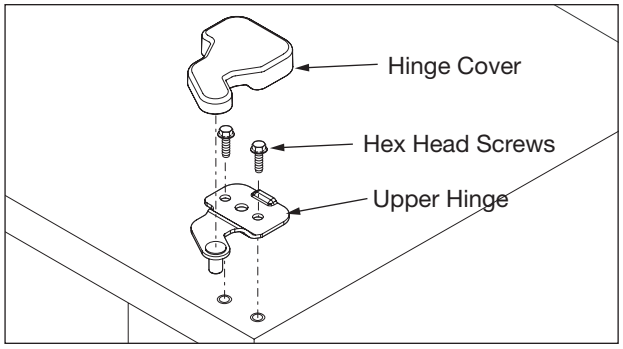


Figure 5-3. Upper Hinge Removal

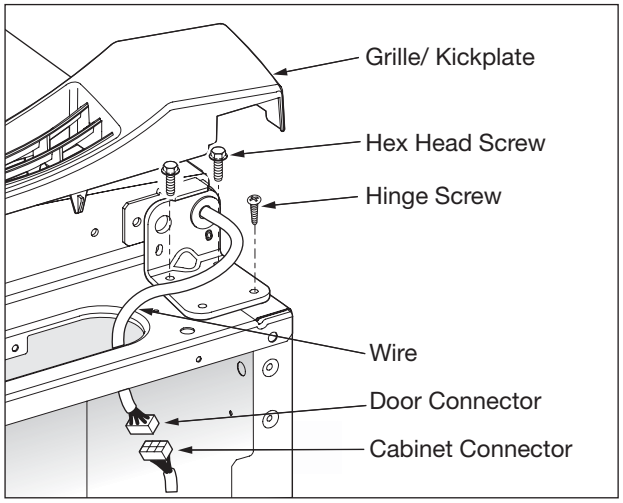


Figure 5-4. Lower Hinge Removal

Lower Hinge Assembly Removal

The lower hinge assembly is secured to the underside of the door assembly. The wire harness for the control panel runs through the lower hinge assembly.

To remove the lower hinge assembly:

1. Remove door from unit.
2. Extract the two screws securing the lower hinge and door closer to the bottom of the door assembly. (See Figure 5-5)

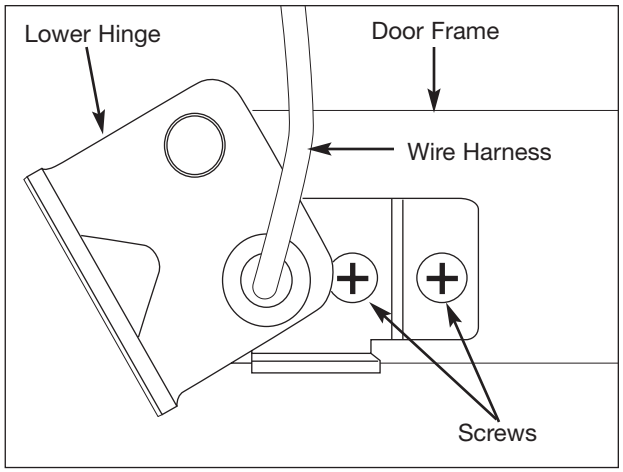


Figure 5-5. Door Lock Removal

Door Gasket and Inner Panel Removal

The inner panel of the door assembly is secured with screws that pass through the inner panel and fasten into the door assembly. The door gasket has an inner lip that is pressed between the inner panel and the door assembly and is secured in position when the inner panel screws are fastened to the door assembly. The inner panel does not have to be removed to extract the door gasket from the door assembly.

To remove the door gasket:

1. Lift the inside edge of the door gasket to access the inner panel screws.
2. Loosen the inner panel screws until the door gasket can be pulled out from under the inner panel. (See Figure 5-6)
3. Continue around door assembly until door gasket is free.
4. To remove the inner panel, extract all screws from the outside edge of the inner panel and remove from unit.

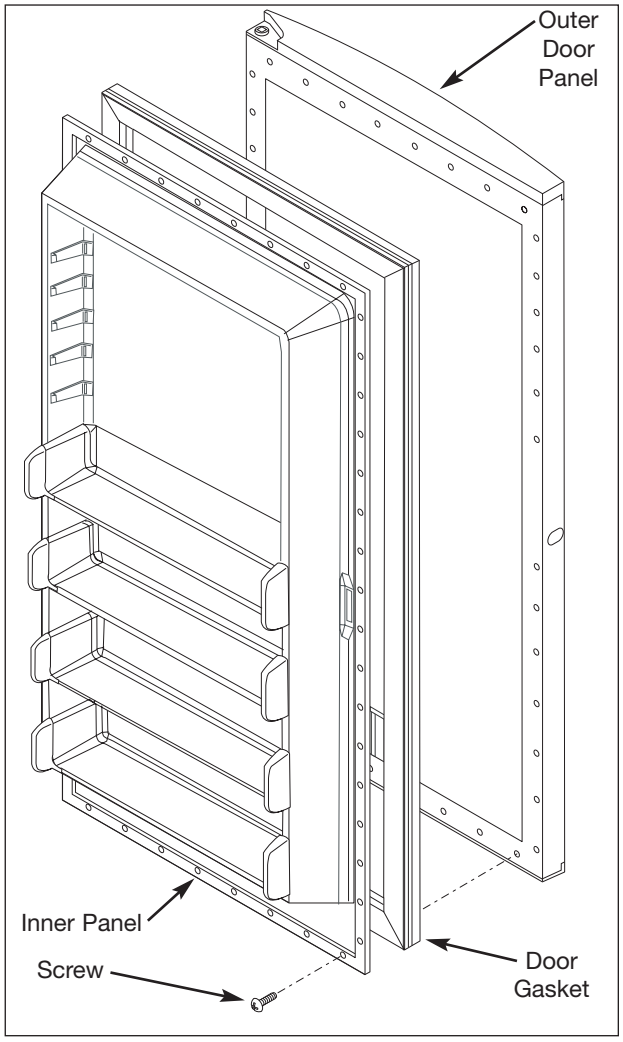


Figure 5-6. Inner Panel and Door Gasket Removal

Door Lock Removal

The door lock assembly is secured to the door assembly with a locking fork located inside the outer door panel. The inner panel must be removed first to access the lock assembly.

To remove the lock assembly (See Figure 5-7):

1. Carefully remove enough foam from inside outer door panel to gain access to the locking fork.
2. Use a flat-bladed screwdriver to push up on the locking fork until it disengages from the lock mechanism.
3. Pull lock assembly out of door liner.
4. When re-installing, replace foam around locking fork.

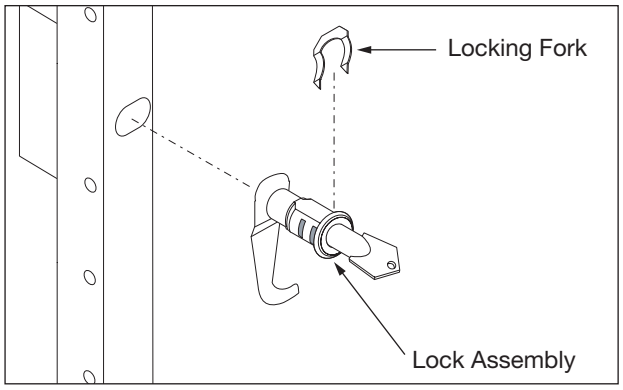


Figure 5-7. Door Lock Removal

User Interface Removal

The user interface is mounted to the front of the unit door. The nameplate covers the screws that secure the user interface to the door assembly.

To remove the user interface:

1. Carefully pry nameplate from user interface, using caution not to damage the plated plastic bezel. (See Figure 5-8)
2. Using a phillips head screwdriver extract the screws securing the user interface to the door assembly.
3. Pull user interface up and away from door until the retaining hooks are free of door assembly. Disconnect wire harness from user interface.

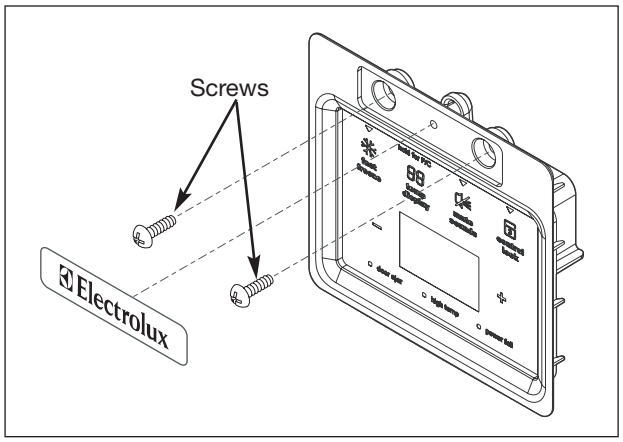


Figure 5-8. Control Removal

Tilt Out Wire Shelf Removal

The tilt out wire shelves have a bar that locates in the end caps that enable the wire shelves to tilt outward. The end caps have two standoffs that snap into holes in the inner panel.

To remove the tilt out wire shelves:

1. Flex the inner panel outward and lift the wire shelf out of the end cap. Then pull the opposite end of the wire shelf out of the opposite end cap. (See Figure 5-9)
2. The end caps are removed by simply pulling the end caps out of the inner panel.

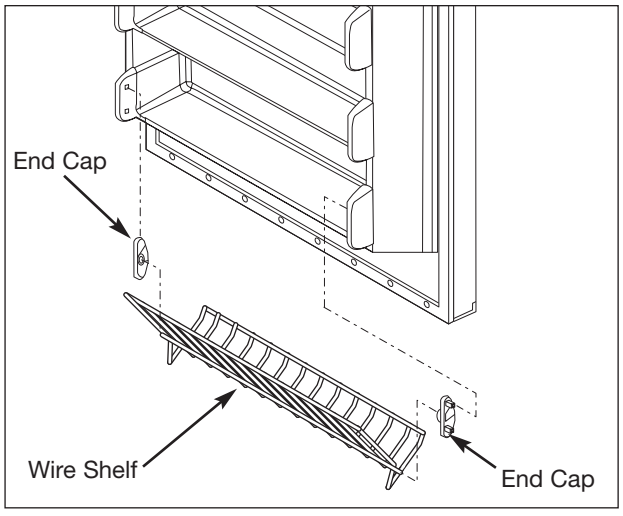


Figure 5-9. Tilt Out Wire Shelf Removal

Door Shelf Guard Removal

The door shelf guard is secured to the inner door panel with two tabs on each end.

To remove the door shelf guard, bend the door shelf guard out in the middle and pull the tabs out of the inner panel. (See Figure 5-10)

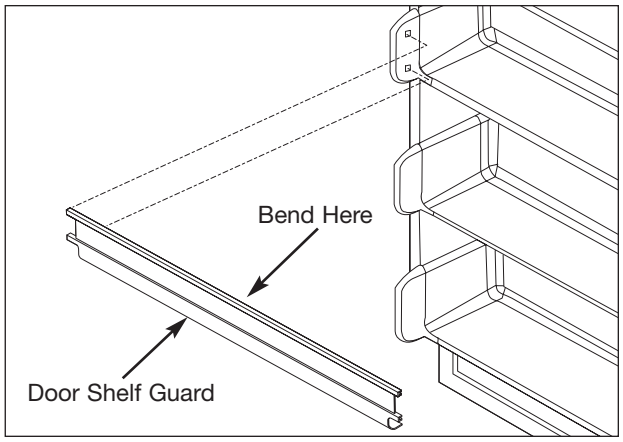


Figure 5-10. Door Shelf Guard Removal

Door Switch Removal

The door switch is mounted inside a hole in the cabinet base along the lower left hand side. (See Figure 5-11)

To remove the door switch:

1. Remove kickplate.
2. Reach into the access hole next to the door switch and disconnect the electrical leads from the door switch terminals.
3. Press in on the retaining latch on the switch body and push switch through hole in cabinet base.

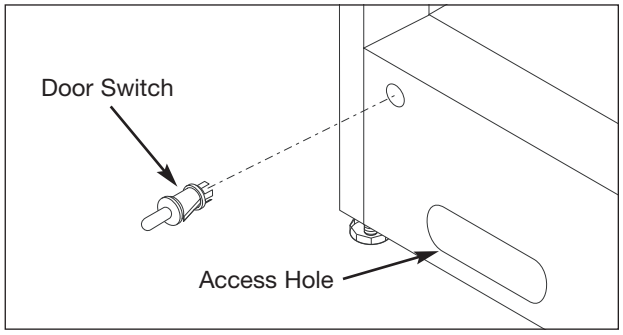


Figure 5-11. Door Switch Removal

Interior Components

Upper Shelf Assembly

The upper glass shelf assemblies have metal bars that slide into holes in the cabinet interior sidewalls. The pizza shelf will fit on any of the three upper glass shelves. (See Figure 5-12)

To remove the upper glass shelf assemblies:

1. If the pizza shelf is attached, remove first by supporting the center of the shelf with one hand and using the other hand to ease the support tabs outward until the tabs drop between the liner wall and the edge of the shelf. Remove pizza shelf from unit.
2. Remove the glass shelves by pushing to the right until the metal bars are free from the left side liner wall. Then tilt down or up until the shelf can be removed from the right side liner wall.

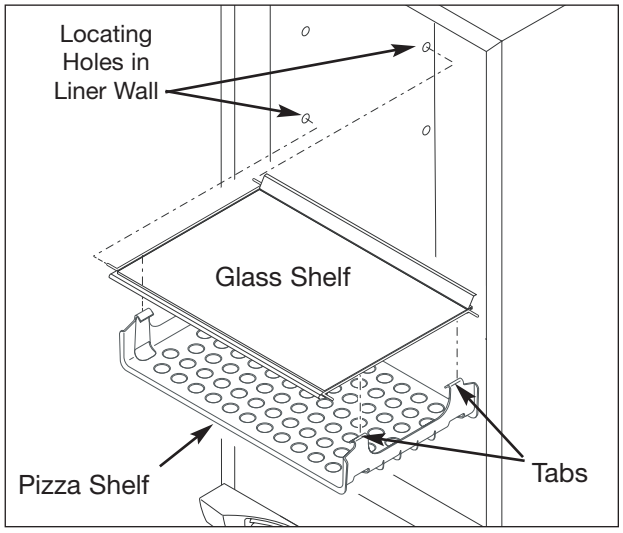


Figure 5-12. Upper Shelf Assembly Removal

Wire Basket Removal

The wire baskets are secured with retaining clips to the slide assemblies. (See Figure 5-13)

To remove the wire baskets:

1. Pull wire basket out from unit interior until the slides are fully extended.
2. Pull wire basket out from the retaining clips on each corner of the wire basket.

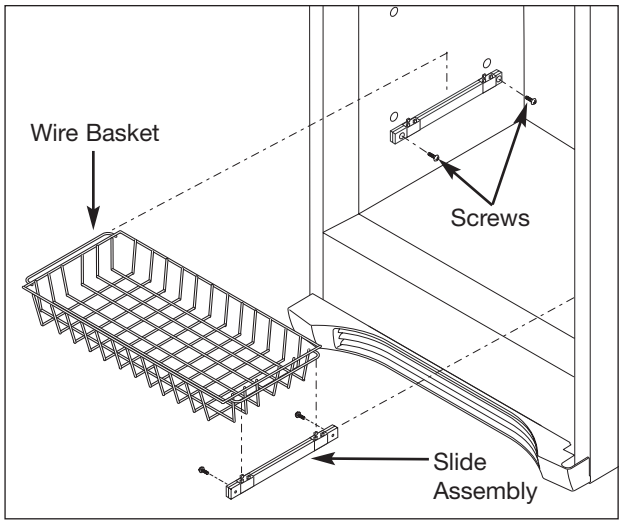


Figure 5-13. Wire Basket and Slide Removal

Wire Basket Slide Removal

The wire basket slides are secured with screws to the liner sidewalls. (See Figure 5-13)

To remove the wire basket slides:

1. Remove wire basket from slide assembly.
2. Using a phillips head screwdriver, extract the two screws securing the slides to the liner side wall.

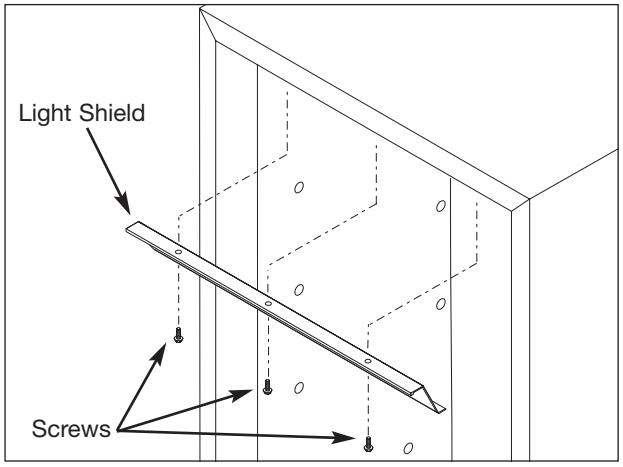


Figure 5-14. Light Shield Removal

Light Shield Removal

The light shield is secured with screws to the interior cabinet ceiling. The light fixture and bulb can be accessed without removing the light shield. (See Figure 5-14)

To remove the light shield, use a phillips head screwdriver and extract the three screws securing the light shield to the interior cabinet ceiling.

Light Fixture Removal

The light fixture is secured with retaining latches into the interior cabinet ceiling behind the light shield. (See Figure 5-15)

To remove the light fixture:

1. Remove light bulb by turning counter clockwise.
2. Pull down on the front of the light fixture while turning the fixture a quarter turn to release the retaining latches.
3. Disconnect wire leads from light fixture terminals.

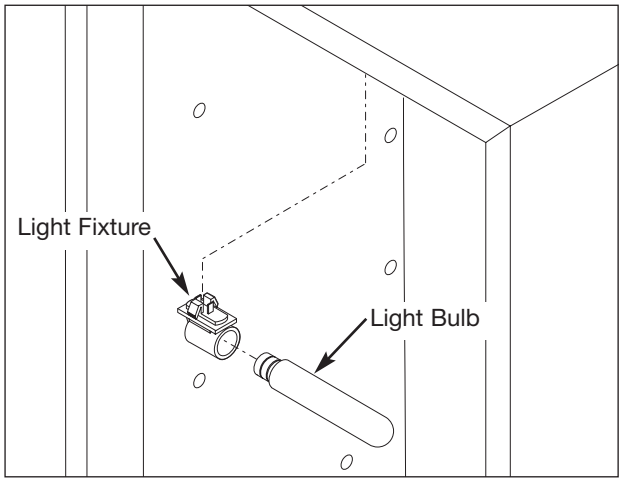


Figure 5-15. Light Fixture Removal

Baffle Plate Removal

The baffle plate is secured with a retaining clip on each end to an opening in the compartment back wall. (See Figure 5-16)

To remove the baffle plate, with one hand grab the baffle plate from the center and pull while pushing with the other hand from the side towards center of the baffle plate.

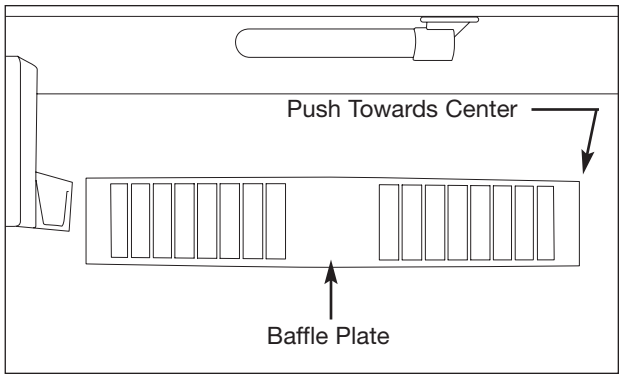


Figure 5-16. Wire Basket and Slide Removal

Ice Maker Removal

The icemaker is mounted with two 1/4" hex head screws to the upper left hand corner of the freezer compartment. (See Figure 5-17)

To remove the ice maker:

1. Remove uppermost glass shelf and ice bucket.
2. Using a 1/4" extended socket or nut driver, extract the two screws securing the icemaker to the left sidewall of the unit.
3. Disconnect wire leads from icemaker at the quick disconnect mounted in the upper left corner of the freezer compartment.

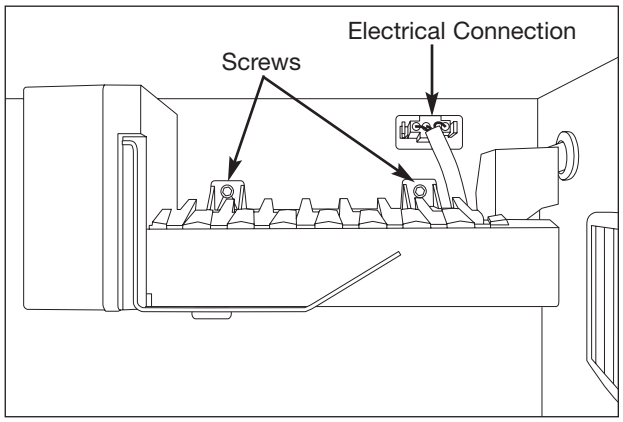


Figure 5-17. Ice Maker Removal

Evaporator Cover Removal

The evaporator cover is secured with screws to the back wall and bottom of the freezer compartment. The evaporator cover has a gasket on each side to create proper airflow in the compartment. (See Figure 5-18)

To remove the evaporator cover:

1. Remove the bottom two glass shelves.
2. Remove the wire baskets and slide assemblies.
3. Using a phillips head screwdriver, extract the ten (10) screws securing the evaporator cover to the freezer compartment.
4. Carefully pull the evaporator cover away from the back wall, using caution not to damage the gaskets on both sides of the evaporator cover.

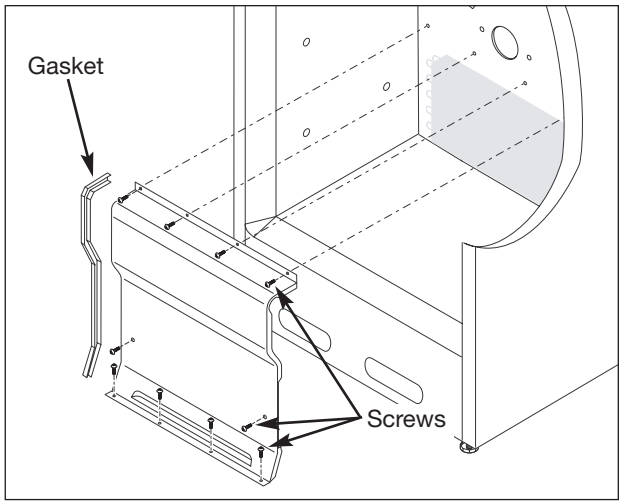


Figure 5-18. Evaporator Cover Removal

Evaporator Fan Assembly Removal

The evaporator fan assembly consists of the fan motor mount bracket, fan motor and fan blade. Two screws secure the fan motor to the fan motor mount bracket. The evaporator fan assembly is then secured with two screws to the back wall of the freezer compartment. (See Figure 5-19)

To remove the evaporator fan assembly:

1. Remove the bottom two glass shelves.
2. Remove wire baskets and slide assemblies.
3. Remove the evaporator cover.
4. Remove wires from retaining clips. Disconnect the electrical leads of fan motor at quick disconnect.
5. Using a 5/16" socket or nut driver, extract the two hex head screws securing the fan motor mounting bracket to the back wall of the unit.
6. Separate the fan motor from the mounting bracket by extracting the two hex head screws securing the fan motor to mounting bracket.
7. Pull fan blade from fan motor shaft.

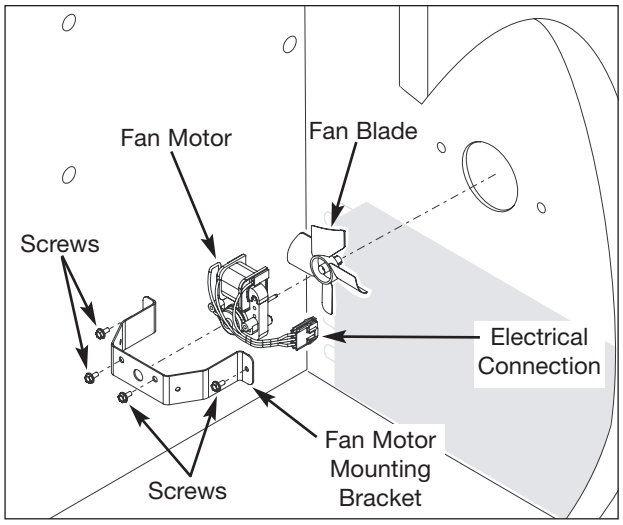


Figure 5-19. Evaporator Fan Assembly Removal

Defrost Thermostat Removal

The defrost thermostat is secured with a retaining clip to the upper left corner of the evaporator assembly. (See Figure 5-20)

To remove the defrost thermostat:

1. Remove the bottom two glass shelves.
2. Remove wire baskets and slide assemblies.
3. Remove the evaporator cover.
4. Disconnect the defrost thermostat wire leads from the wire harness. (See Figure 5-20)
5. Pull the defrost thermostat off of the evaporator tubing.

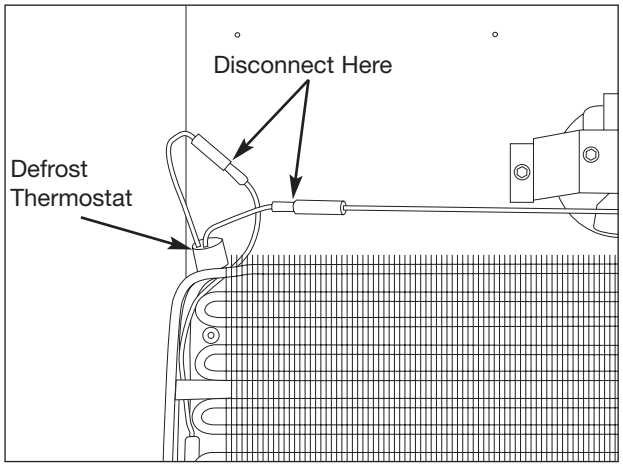


Figure 5-20. Defrost Thermostat Removal

Thermistor Removal

The thermistor is mounted with a screw to the back wall of the freezer compartment.

To remove the thermistor:

1. Remove the evaporator cover.
2. Extract the phillips screw securing the thermistor to the back wall. (See Figure 5-21)
3. Cut the wires and splice the new thermistor into place.

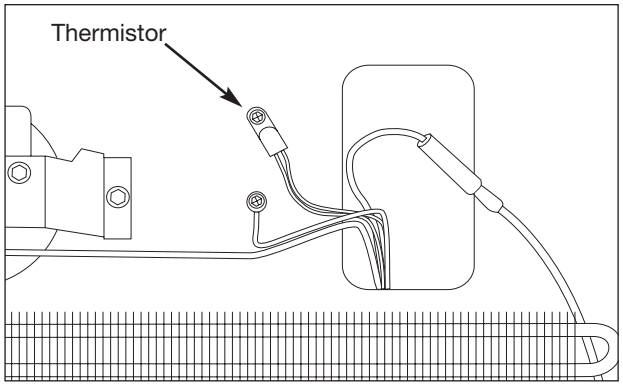


Figure 5-21. Defrost Thermostat Removal

Defrost Heater Removal

The defrost heater is secured with two aluminum straps to the bottom tube of the evaporator assembly.

To remove the defrost heater:

1. Remove the bottom two glass shelves.
2. Remove wire baskets and slide assemblies.
3. Remove the evaporator cover.
4. Disconnect the defrost heater wire leads from the wire harness. (See Figure 5-22)
5. Release the aluminum straps securing the defrost heater to the bottom of the evaporator assembly.
6. Remove the styrofoam insulators from both sides of the evaporator.
7. Pull defrost heater from evaporator assembly.

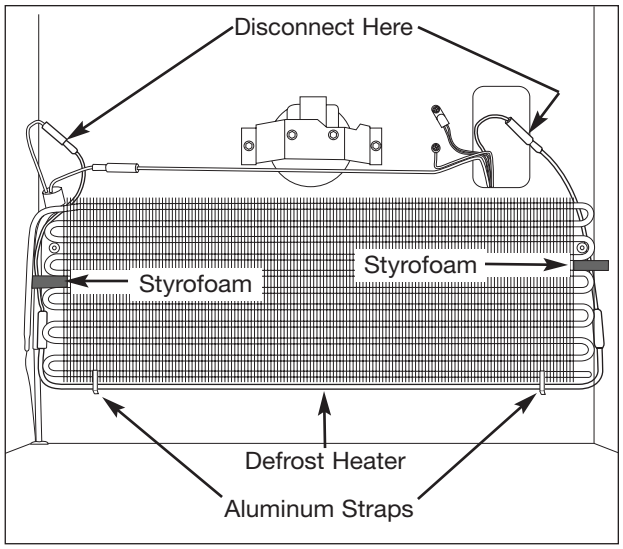


Figure 5-22. Defrost Heater Removal

Evaporator Removal

The evaporator sets upon the two screw standoffs mounted to the back wall of the freezer compartment. Two pieces of styrofoam are pressed between the evaporator assembly and the sidewalls of the unit, securing the assembly in position. (See Figure 5-23)

To remove the evaporator:

1. Remove the bottom two glass shelves.
2. Remove wire baskets and slide assemblies.
3. Remove the evaporator cover.
4. Remove the styrofoam insulators from both sides of the evaporator.
5. Remove the defrost thermostat and defrost heater.
6. Recover refrigerant by using EPA approved recovery system.

NOTE: *Whenever the sealed system is opened the filter-drier must be replaced.*

7. Remove the filter-drier.
8. Cut suction line about 1" from compressor.
9. Straighten the tubing, remove the foam sleeve, and carefully feed the heat exchanger through the cabinet while pulling up on the evaporator.

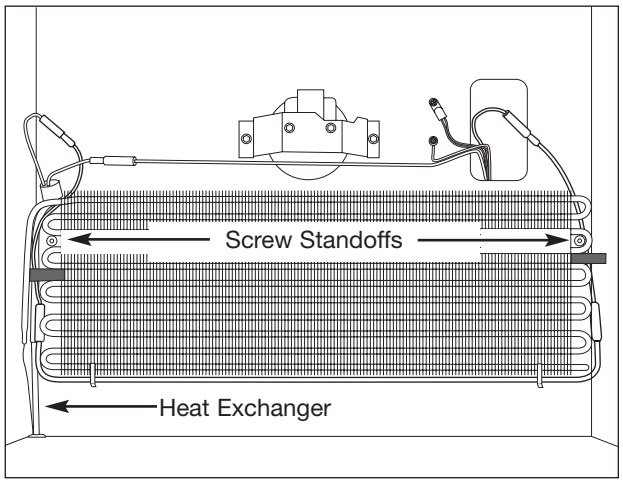


Figure 5-23. Evaporator Removal

Compressor Area Components

Power Cord

The power cord enters the compressor area on the lower left side and is secured to the compressor mounting plate with a P-clamp and screw.

To remove the power cord:

1. Pull unit from its installation position to access the rear compressor area.
2. Using a phillips head screwdriver, extract the four screws securing the compressor area shield to the rear of the unit. Remove shield.
3. Using a 1/4" socket or wrench, extract the screw securing the P-clamp to the compressor mounting plate. (See Figure 5-24)
4. Using a 1/4" socket or wrench, extract the screw securing the ground wires to the compressor mounting plate.
5. Disconnect the power cord from the wire harness at the quick disconnect. Remove power cord from unit.

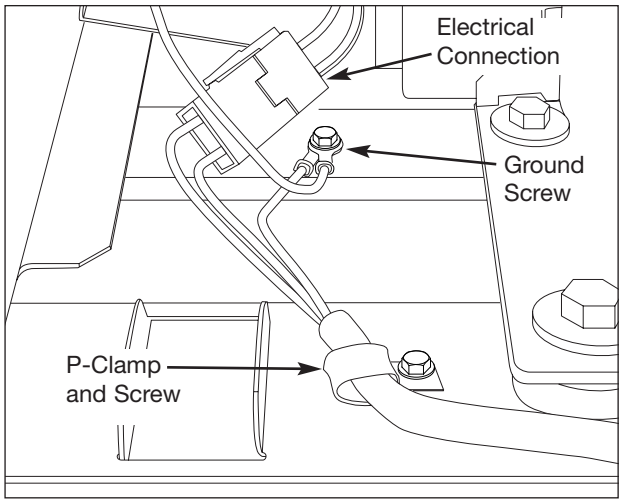


Figure 5-24. Power Cord Removal

Water Valve

The water valve is secured with two screws to the right hand side of the unit behind the compressor area shield.

To remove the water valve:

1. Pull unit from its installation position to access the rear compressor area.
2. Using a phillips head screwdriver, extract the four screws securing the compressor area shield to the rear of the unit. Remove shield.
3. Disconnect water valve from household water supply. (See Figure 5-25)
4. Using fingers, disconnect the icemaker water line from water valve.
5. Using a 1/4" socket or wrench, extract screws securing water valve to unit frame.
6. Disconnect electrical connections from terminals of water valve.

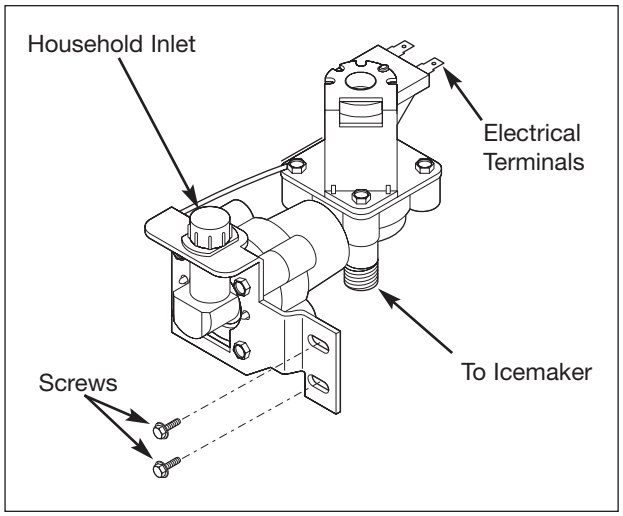


Figure 5-25. Water Valve Removal

Filter-Drier Removal

The filter-drier is located in the compressor area on the left side of the compressor. (See Figure 5-26)

To remove the filter-drier:

1. Pull unit from its installation position.
2. Extract the screws securing the fiber board cover to the unit frame. and remove from unit.

⚠ CAUTION

On R-134a systems, the system must NOT be left open to the atmosphere for more than 10 minutes to prevent moisture contamination of compressor oil.

3. Recover refrigerant by using EPA approved recovery system.
4. Using a 3 cornered file, score a groove around capillary tube as close to old filter-drier as possible. Break capillary tube along score mark from filter-drier.
5. Cut condenser outlet tube at filter-drier. Discard filter-drier.
6. Thoroughly clean condenser outlet tube and capillary tube.
7. Place inlet connection of filter-drier over condenser tube approximately ¼" and solder.
8. Insert capillary tube input end into filter-drier outlet. Do not allow tube to bottom against screen. Solder carefully so that solder does not plug capillary tube.
9. Install process tube adapter to filter-drier.
10. Evacuate and charge system using the recommended procedure described under Evacuating and Recharging in the Refrigeration section.
11. Reassemble unit.

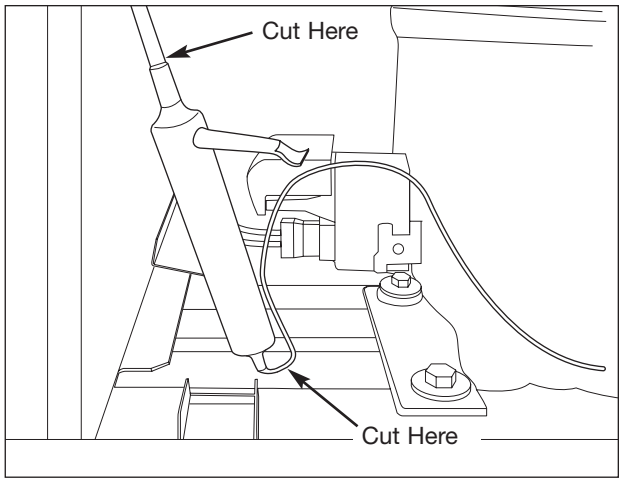


Figure 5-26. Filter-Drier Removal

Compressor Removal

The compressor sits on four grommets and is secured with four screws to the compressor mounting plate. (See Figure 5-27)

To remove the filter-drier:

1. Pull unit from its installation position.
2. Extract the screws securing the compressor shield to the unit frame and remove from unit.
3. Using a small flat bladed screwdriver, release the locking tab from the wire harness connection and disconnect from compressor controller.
4. Using a needlenose pliers, remove spring wire holding the controller to the compressor.
5. Recover refrigerant by using EPA approved recovery system.
6. Using a 7/16” socket, remove the (4) bolts, one in each corner, holding the compressor to the base. (See Figure 5-28)
7. After refrigerant is completely recovered, cut suction and discharge lines as close to compressor as possible. Leave only enough tubing to pinch off and seal defective compressor. Plug or tape any open system tubing to avoid entrance of moisture and air into system. Remove inoperable compressor and transfer mounting parts to new compressor.
8. Install new compressor inexact same manner as original compressor.
9. Reform both suction and discharge lines to align with new compressor. If they are too short, use additional lengths of tubing. Joints should overlap 0.5” to provide sufficient area for good solder joint. Clean and mark area where tubing should be cut.
10. Cut tubing with tubing cutter. Work as Work as quickly as possible to avoid letting moisture and air into system.
11. Reassemble unit.

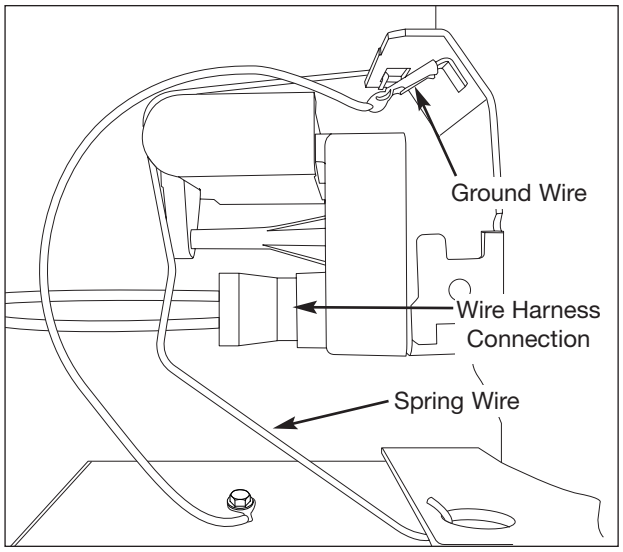


Figure 5-27. Compressor Removal

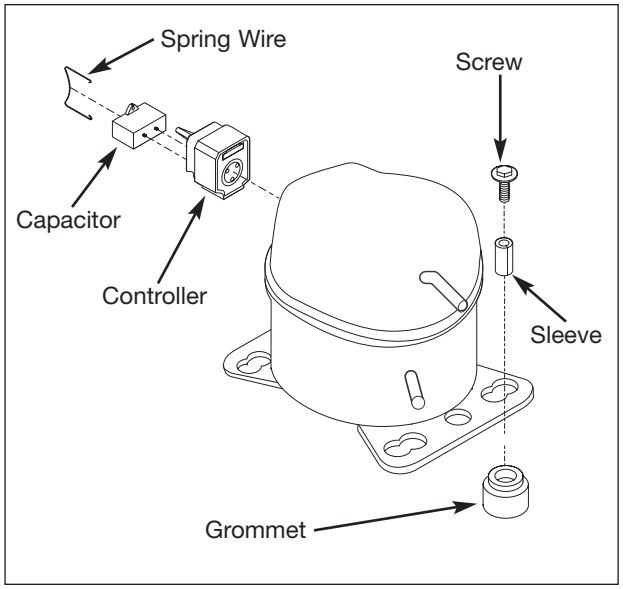


Figure 5-28. Compressor Components

Drain Pan Removal

The drain pan is secured with four screws to the bottom of the unit frame.

To remove the drain pan:

1. Pull unit from its installation position. The front of the unit will need to be raised to access the drain pan screws.

⚠ CAUTION

Use caution when tilting a freezer unit. Use sturdy blocking materials that will not allow the freezer to rock or tip over when servicing the unit.

2. Using a short phillips head screwdriver, extract the four screws securing the drain pan to the bottom of the unit frame. (See Figure 5-29)
3. Allow the drain pan to drop down. Pull drain tube from drain pan.
4. Pull condenser tubes out of the retainers mounted to the drain pan.

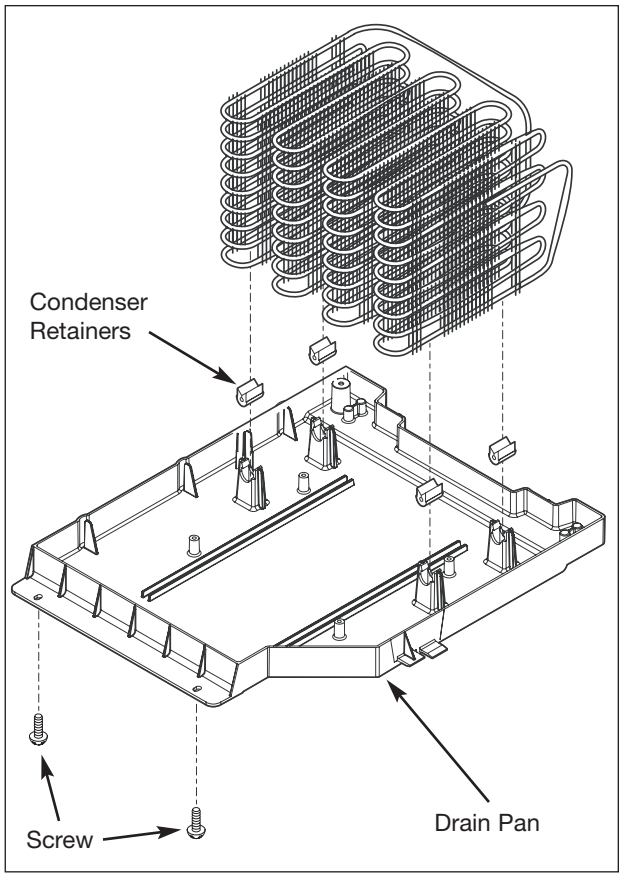


Figure 5-29. Drain Pan Removal

Condenser Fan Motor Removal

The condenser fan motor is secured with three screws to the condenser fan motor bracket. Two hooks and two screws at the base of the condenser fan motor bracket secure the assembly to the unit base. (See Figure 5-30)

To remove the condenser fan motor:

1. Pull unit from its installation position. The front of the unit will need to be raised to access the drain pan screws.
2. Extract the screws securing the compressor shield to the unit frame and remove from unit.
3. Disconnect wire harness from the wire leads of condenser fan at quick disconnect.
4. Remove the four drain pan screws. Allow the drain pan to drop from its installation position.
5. With a needle nose pliers, reach behind air divider and compress the plastic retainers while pushing them out of the condenser fan mounting bracket. Remove air divider.
6. Using a 1/4” socket or wrench, extract the two screws securing the fan mounting bracket to the unit frame.
7. Using a phillips head screwdriver, extract the three screws securing the fan motor to the fan mounting bracket.
8. Pull fan motor and fan blade out from behind the mounting bracket. Remove fan blade by pulling the fan blade from the motor shaft.

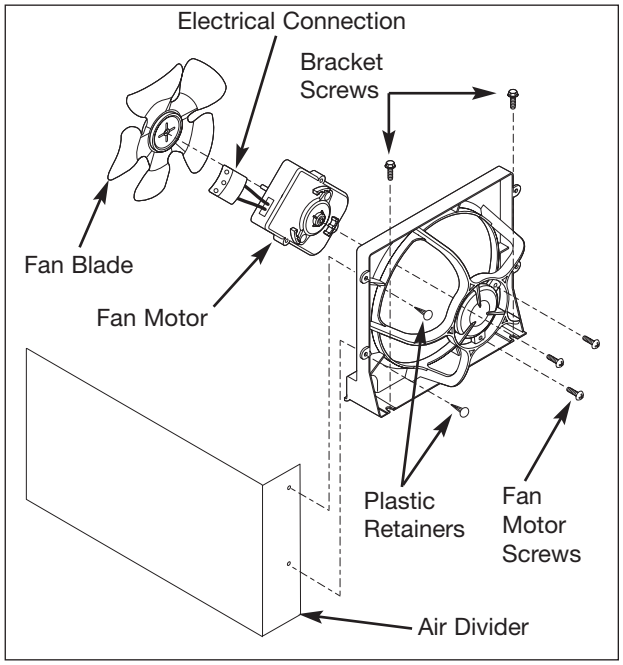


Figure 5-30. Condenser Fan Components

Condenser Removal

The condenser is mounted to the drain pan by four retaining clips.

To remove the drain pan:

1. Pull unit from its installation position.
2. Extract the screws securing the compressor shield to the unit frame and remove from unit.
3. Recover refrigerant by using EPA approved recovery system.
4. Remove condenser fan assembly from unit.
5. Disconnect inlet and outlet lines from condenser. (See Figure 5-31)
6. The front of the unit will need to be raised to access the drain pan screws.
7. Using a short phillips head screwdriver, extract the four screws securing the drain pan to the bottom of the unit frame.
8. Allow the drain pan to drop down. Pull drain tube from drain pan.
9. Pull condenser tubes out of the retainers mounted to the drain pan. Remove condenser from unit.
10. Replace old filter-drier after installing the new condenser.

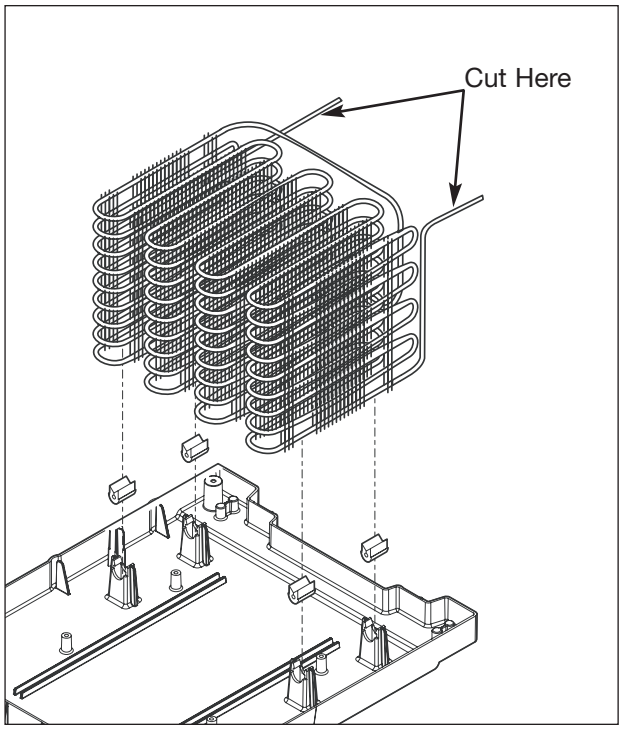


Figure 5-31. Condenser Removal

Control Module Assembly

The control module assembly is secured with screws to the lower right side of the compressor area.

To remove the control module assembly:

1. Pull unit from its installation position.
2. The front of the unit will need to be raised to access the control module assembly.

⚠ CAUTION

Use caution when tilting a freezer unit. Use sturdy blocking materials that will not allow the freezer to rock or tip over when servicing the unit.

3. Disconnect all wire leads from control module assembly either at the board or at the molex connectors. (See Figure 5-32)
4. Extract the screws securing the control module assembly to the inner compartment side wall.

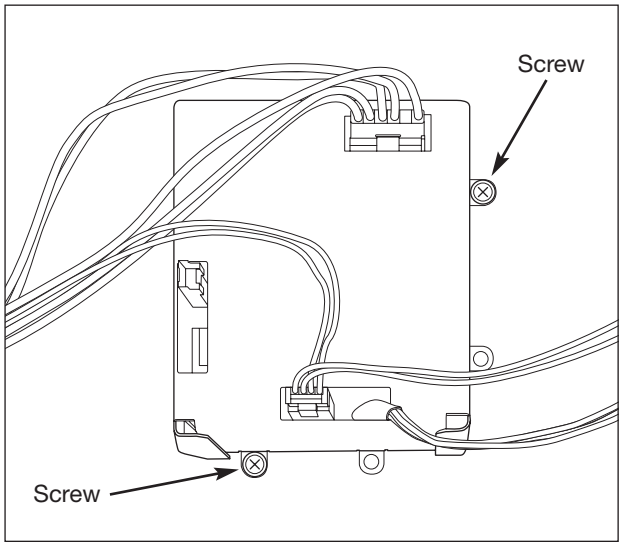


Figure 5-32. Condenser Removal

Notes

Section 6

Ice Maker

Rear Mounted Ice Maker

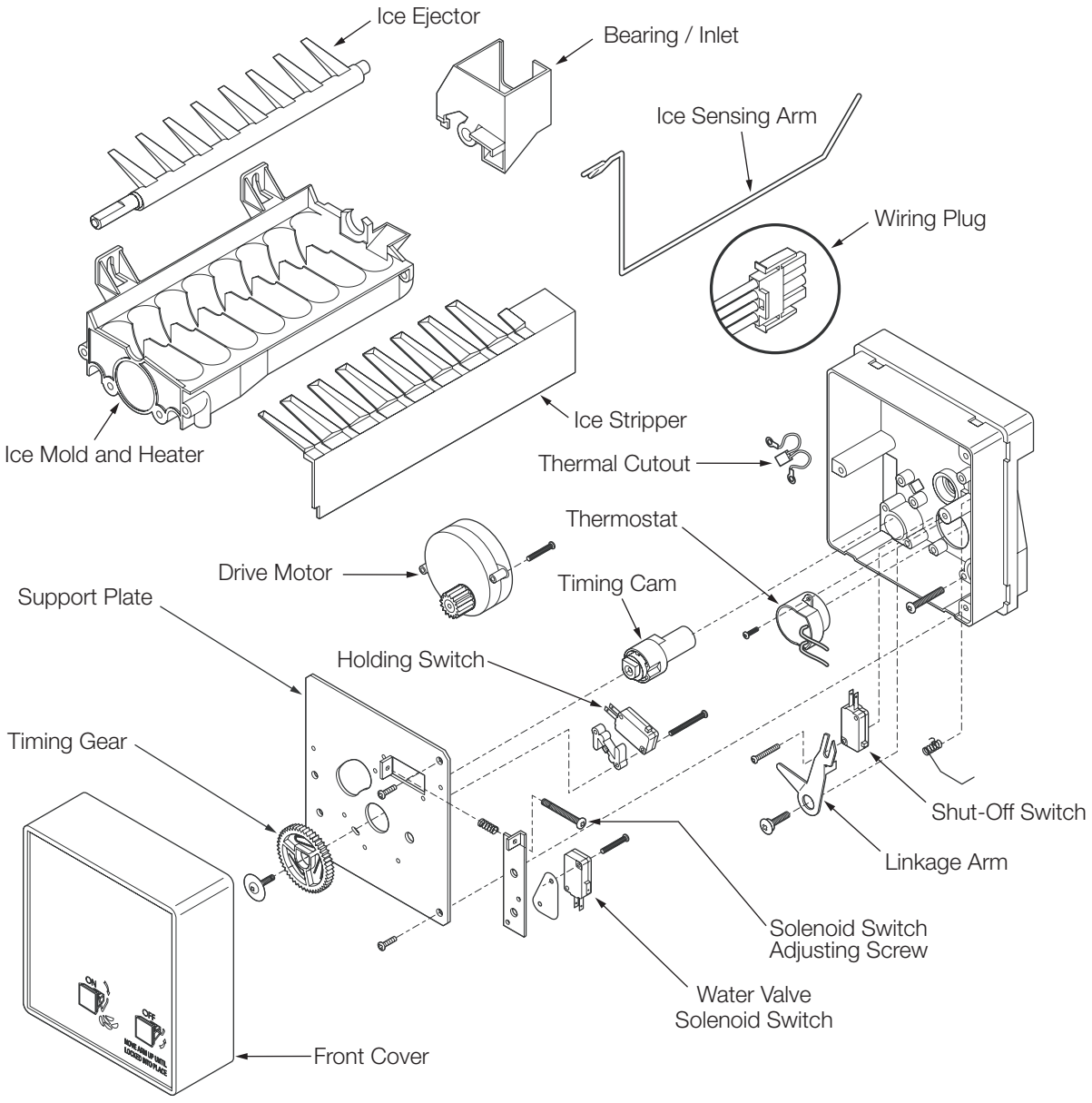
The Ice Maker is designed to produce ice automatically. The length of time between harvest cycles will vary, depending on load conditions, door openings, ambient temperature and freezer temperature and water temperature. These factors must be taken into consideration when checking the ice production rate.

With a temperature of -2°F to +5°F in the freezer, the rate of harvest will be 40 to 96 cubes per 24 hour period.

The ice maker is wired across the line and will harvest ice in the refrigeration or defrost cycles.

The water valve and solenoid assembly are both mounted in the compressor compartment.

A tube extends from the water valve up the rear wall of the refrigerator to a water inlet spout that directs the water into the fill trough. The water fill spout will twist lock into a housing in the back of the refrigerator and direct water flow into the ice maker from the side of the mold.



Ice Maker Components

Front Cover

A decorative front cover, made of molded plastic, encloses the operating mechanism of the ice maker, protecting it from moisture. It is essential that the cover be in place on an operating ice maker to protect against possible contact with the mechanism by the user.

Ice Mold

The ice mold is die-cast aluminum with the ice maker thermostat bonded to its front surface. The mold has a semi-circular interior partitioned into equal size compartments. Water enters at the side of the mold, through a fill trough. A film of silicon grease on the top edge of the mold prevents siphoning of water by capillary action.

Mold Heater

A mold heater, rated at 112 watts at 115volts, 108 ohms ± 10% it is covered with an aluminum sheath and embedded in the grooved section on the underside of the ice mold. When the mold heater is energized, the ice contact surface within the mold is heated enough to allow harvest of the ice pieces.

The mold heater is wired in series with the ice maker thermostat, which acts as a safety device.

The heater is staked in place, and is replaced as part of the ice maker mold.

A thermal mastic sealer is placed between the heater and the mold to ensure good thermal contact.

Ice Stripper

An ice stripper is attached to the mold to prevent ice pieces from falling back into the mold. It also serves as a decorative side cover.

Ice Ejector

The ejector blades are molded from delrin, and extend from a central shaft, which turns in nylon bearings at the front and rear. Each blade sweeps an ice section out of the mold. The drive end of the ice ejector is “D” shaped. Food grade silicone grease is used to lubricate the bearing surfaces.

Water Valve Assembly

The water valve is solenoid operated and when energized, releases water from the household supply into the ice mold. The amount of water released is directly proportional to the length of time the water valve switch is energized. A flow washer, inside the water valve, maintains a constant rate of water flow over a supply line with pressure ranging from 20 to 100 psig. It will not compensate for pressures below 20 psig, or greater than 100 psig. A No. 80-mesh screen, placed ahead of the flow washer, filters out foreign materials.

The solenoid coil draws 10 to 20 watts of power. The coil is wired in series with the mold heater, across the supply voltage.

Thermostat

The thermostat is a single-pole, single throw (SPST), bimetallic, disk-type, thermal switch. It automatically starts the harvest cycle when the ice is frozen. The thermostat closes at a temperature of 9°F ± 2°. Wired in series with the mold heater, the thermostat acts as a safety device against overheating in the event of mechanical failure. A thermal mastic bond is provided where the thermostat is mounted against the mold. A gasket prevents water from leaking into the support housing.

Sensing Arm & Linkage

The sensing arm is cam-driven and operates a switch that controls the quantity of ice produced. In the harvest cycle, the arm is raised and lowered during each of the two revolutions of the timing cam. If the sensing arm comes to rest on top of ice in the storage compartment during either revolution, the switch will remain open and stop the ice maker at the end of that revolution. When sufficient ice is removed from the storage container, the sensing arm lowers and ice production resumes. To manually stop the ice maker turn the switch located on the housing at the left end of the ice maker to off. Operation is resumed when the switch is turned back to on.

Timing Switches

The three timing switches used are single- pole, double throw (SPDT). They are identical except for function, and can be used interchangeably.

1. **Hold Switch** - assures completion of a revolution once the ice maker operation has started.
2. **Water Fill Switch** - opens the water valve during the fill cycle. It is the only adjustable component in the ice maker.
3. **Shut-off Switch** - stops ice maker operation when the storage container is full of Ice. The switch is opened after the sensing arm is raised to its most upright position. The switch is mounted to the top right wall of the ice maker support.

Thermal Cut-Out (TCO)

The thermal cut-out is a one-time limit fuse used as a safety device. It is located under the mounting plate, in the head of the ice maker, between the thermostat and wire connector.

If the thermal cut-out opens, the cause of failure must be determined and corrected prior to replacing the TCO. Normals causes of the TCO failing are a bad thermostat or a shorted coil on the water valve.

Timing Cam & Coupler

Three separate cams are combined in one molded Delrin part:

1. Inner cam operates shut-off switch lever arm.
2. Center cam operates hold switch.
3. Outer cam operates water fill switch.

One cam end is attached to a large timing gear. The other cam end is coupled to the ejector.

Timing Gear

This large molded plastic gear is driven by the motor and, in turn, rotates the cam and ejector. A “D” shaped hole in the gear fits over the timing cam hub. Spacer tabs on the backside of the gear prevent the gear from binding on the mounting plate.

Motor

A low wattage, stall-type motor drives the timing gear. This gear turns the timing cam and ejector blades approximately one revolution every three minute (1/3 RPM).

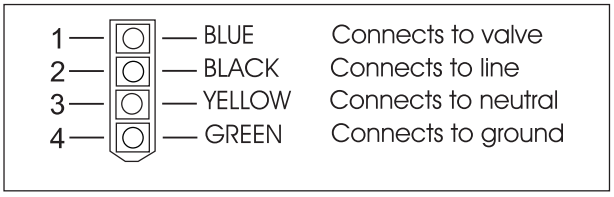
On/Off Switch

A single-pole, single-throw switch is mounted on the right side of the housing at the front of the ice maker. This switch is used to turn the ice maker off. Unlike the switch on the bail arm the on/off switch will stop the ice maker as soon as it is pushed, and it will not allow the ice maker to complete the revolution.

Wiring

A four-prong plug connects the ice maker wiring to the cabinet wiring harness. The ice maker assembly is wired across the line and will harvest in either the refrigeration or defrost cycles. A wiring diagram is located inside the front cover of the ice maker.

Ice Maker Connector Plug



Installing Water Supply Line to Ice Maker

Supply line installation must comply with all applicable plumbing codes. The ¼" tubing, and any other plumbing materials required, should be obtained locally.

The ice maker should be connected to a frequently used cold water line to ensure a fresh water supply. Be sure to leak test all connections after the water supply has been turned on.

Water Valve Switch – Water Fill Volume

The amount of water fill is directly proportional to the length of time terminals "C-NC" of the water fill switch are closed. Closing occurs when the switch plunger drops into a cavity formed in the cam.

Different water valves have different flow rates. For this reason, anytime a water valve is replaced, the water fill must be checked and the fill switch must be adjusted if needed.

The correct water fill volume is 80 to 100 cc. To measure the fill volume, test-cycle the Ice Maker and collect the water. Measure in a container calibrated in cubic centimeters (CC) the fill time is 5.0 seconds.

The fill volume is adjusted by increasing or decreasing the length of time the water fill switch remains closed.

To adjust the water fill switch, first determine how much water is needed. The adjusting screw is calibrated so that one complete revolution changes the water fill about 18 cubic centimeters. Turning the screw clockwise decreases the fill, while turning counterclockwise increases the fill.

NOTE

A vertical cold water line should be selected for the water supply. If a vertical line is not available, a horizontal line may be used, providing the connection is on the side or top of the pipe, but not on the bottom. Scale and foreign material in the pipe could cause stoppage of water flow if the connection is on the bottom.

Test Cycling Ice Maker

Operation of the ice Maker, water refilling, and controlled ice storage, require proper functioning and timing of all components.

Consider the following:

- Has refrigerator been properly installed and connected to sources of electrical power and water?
- Has freezer compartment evaporator pulled down to temperature?
- Is the ice maker turned on?
- Have several ice making cycles been completed to remove all the air form the water lines?
- Do the ejector blades make two revolutions per cycle? Is ice stored on blades after harvest?
- Is the water solenoid wired in series with the mold heater?

It may be necessary, on occasion, to test-cycle an ice maker to check its operation. This can be done on the repair bench or while mounted in the refrigerated compartment.

If the ice maker is in an operating freezer, take precautions against the formation of condensate by allowing the cold, metal components to warm up before removing the front cover. This can be expedited by cycling the assembly with the cover in place and the water supply valve closed.

To manually cycle the ice maker, push the on off switch to the on position then push in harder against the spring loaded second set of contacts in the switch and hold in until the hold switch circuit to the motor is completed. When the motor starts, all components except the ice maker thermostat should perform normally. Once the ice maker completes its cycle, if additional testing is necessary you can you can push in on the switch again to start the ice maker into another cycle.

Operating Cycle Illustrations - Manual Cycle

To manually cycle ice maker:

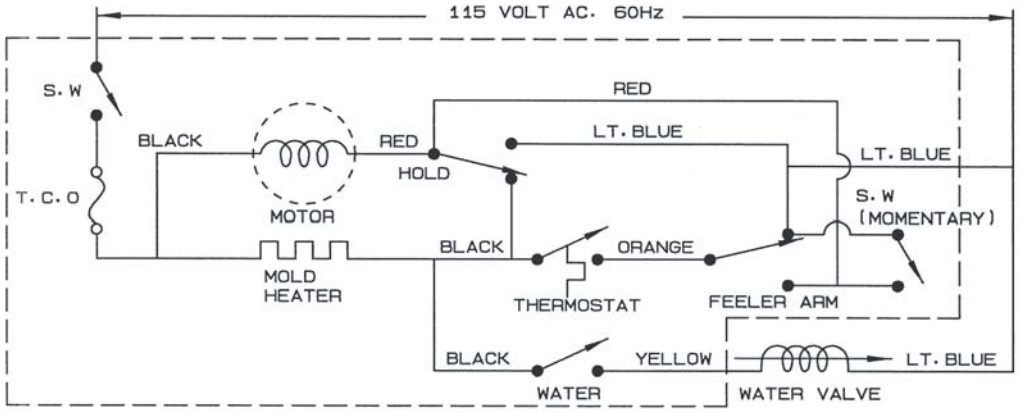
1. Turn the On Off switch to ON
2. Press in on switch holding the spring loaded contact set closed, this will allow the motor to start.
3. Hold in on the switch for 10 seconds to allow hold switch contacts to close allowing the ice maker to continue through a cycle.

Operating Cycle Illustrations - Electrical

The following wiring diagrams illustrate the electrical operation of an ice maker.

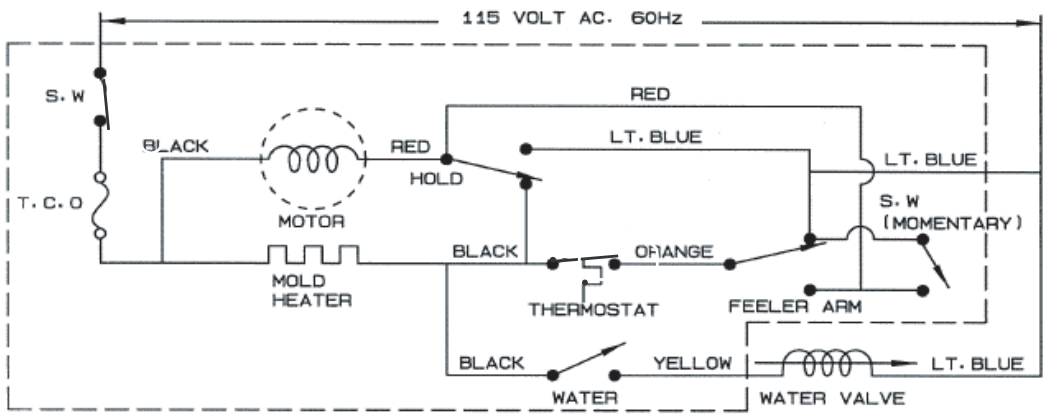
- Ice Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat open.
- Motor not rotating.
- Mold Heater off.
- Control Arm in the down position.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NC.
- Water Fill Switch open.

1



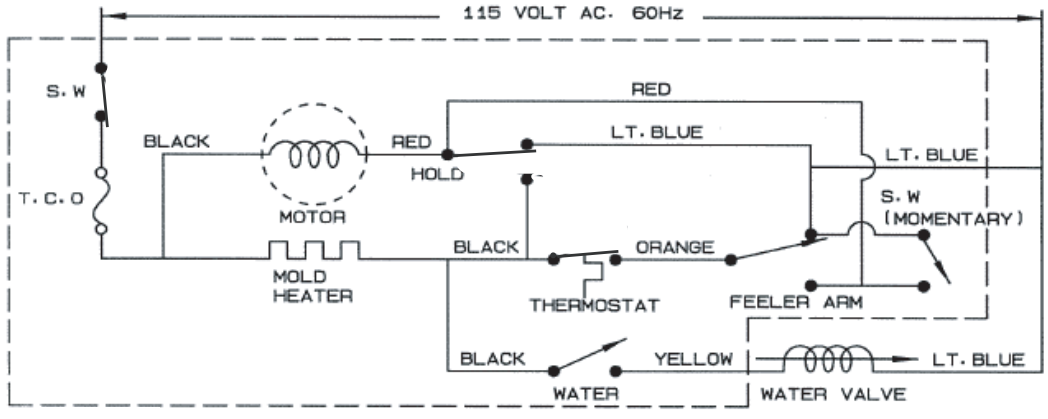
- Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat closes.
- Motor starting.
- Mold starting to heat.
- Control Arm in the down position.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NC.
- Water Fill Switch open.

2



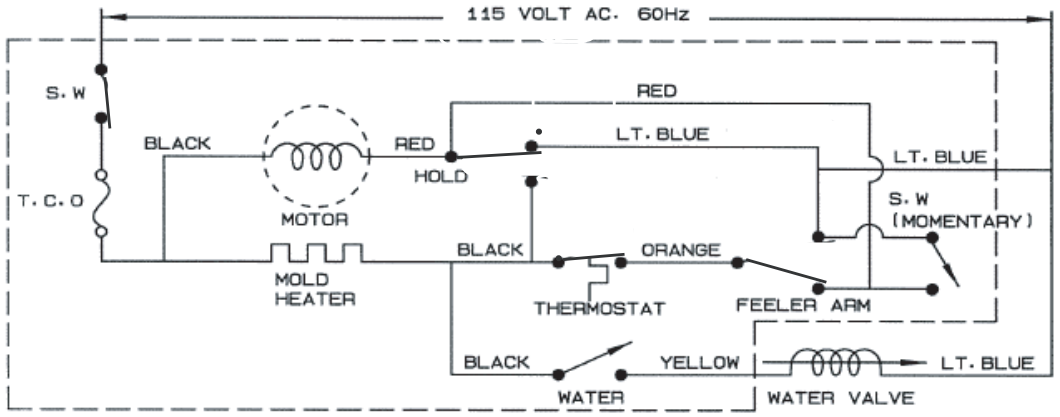
- Ice Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat closed.
- Motor starting to rotate.
- Mold starting to heat.
- Control Arm in the down position.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NC.
- Water Fill Switch open.

3



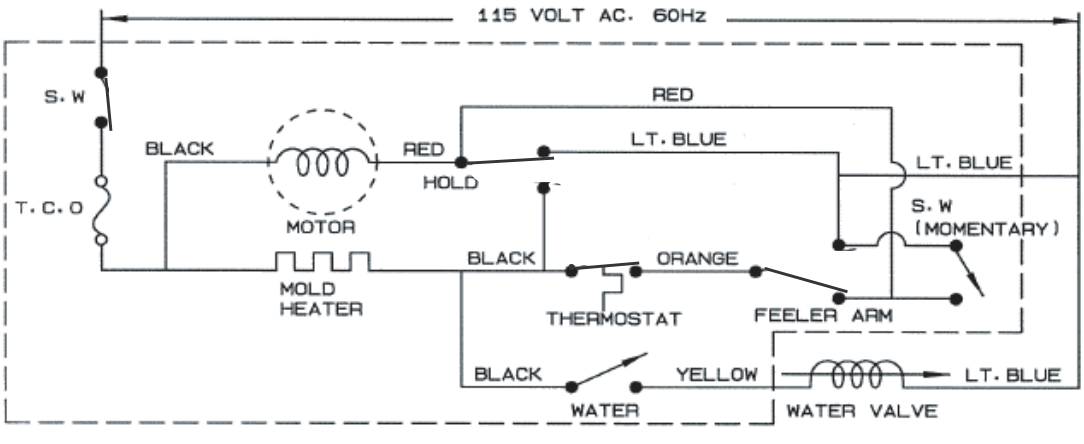
- Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat closed.
- Motor rotating.
- Mold heating.
- Control Arm swinging up.
- Feeler Arm Switch closed C to NC.
- Hold Switch closed C to NC.
- Water Fill Switch open.

4



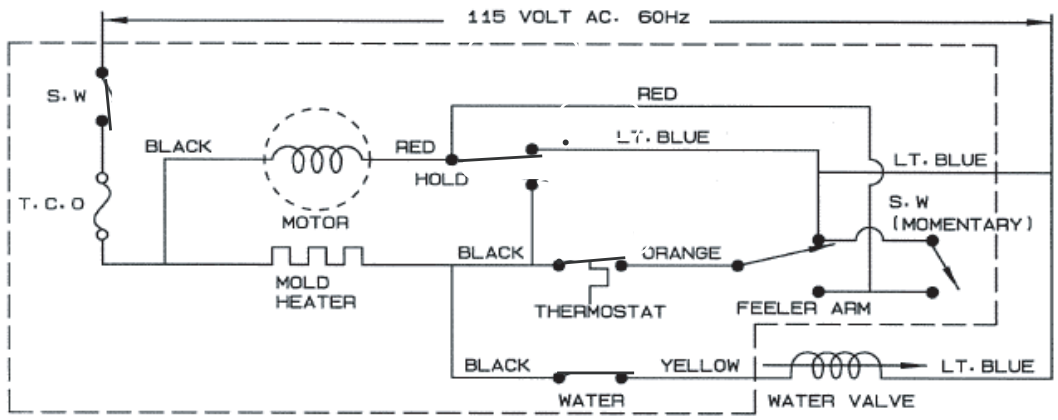
- Ice Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat closed.
- Motor stalls as ejector hits ice in mold.
- Mold heating.
- Control Arm swinging down.
- Feeler Arm Switch closed C to NC.
- Hold Switch closed C to NO.
- Water Fill Switch open.

5



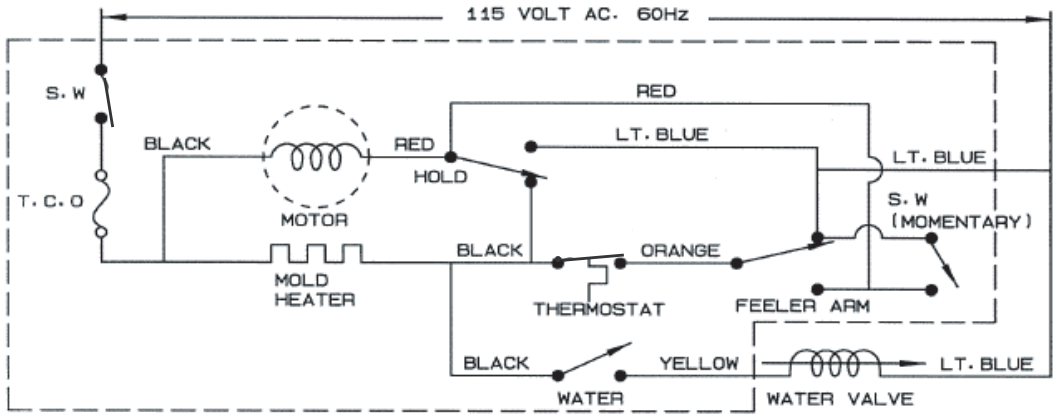
- Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat closed.
- Motor starts to rotate as ice breaks loose.
- Mold heating.
- Control Arm is down.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NO.
- Water Fill Switch closed but shorted open by thermostat.

6



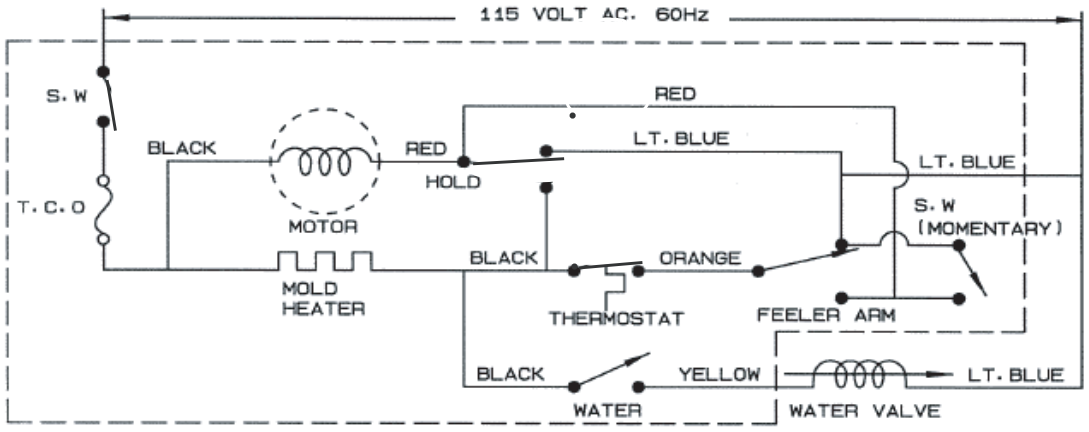
- Ice Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat closed.
- Motor is rotating.
- Mold heating.
- Control Arm is down.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NC.
- Water Fill Switch open.

7



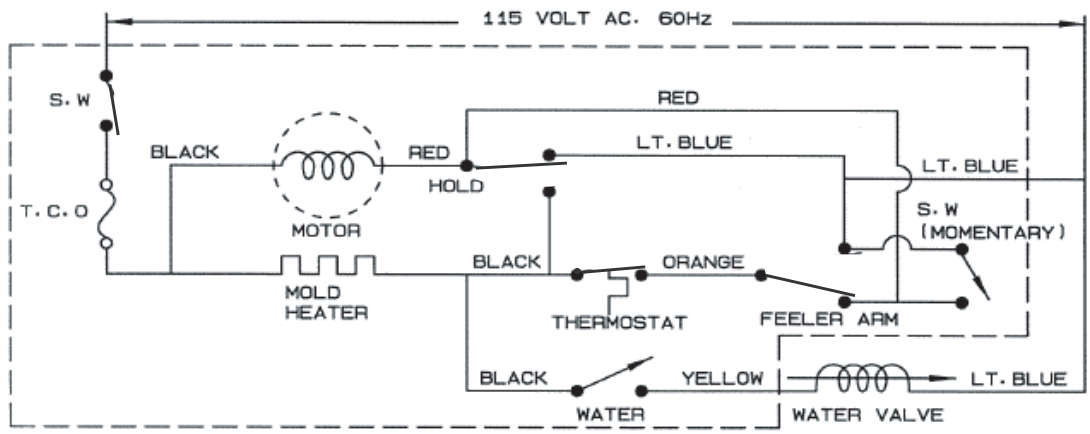
- Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat closed.
- Motor is rotating.
- Mold heating.
- Control Arm swinging up.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NO.
- Water Fill Switch open.

8



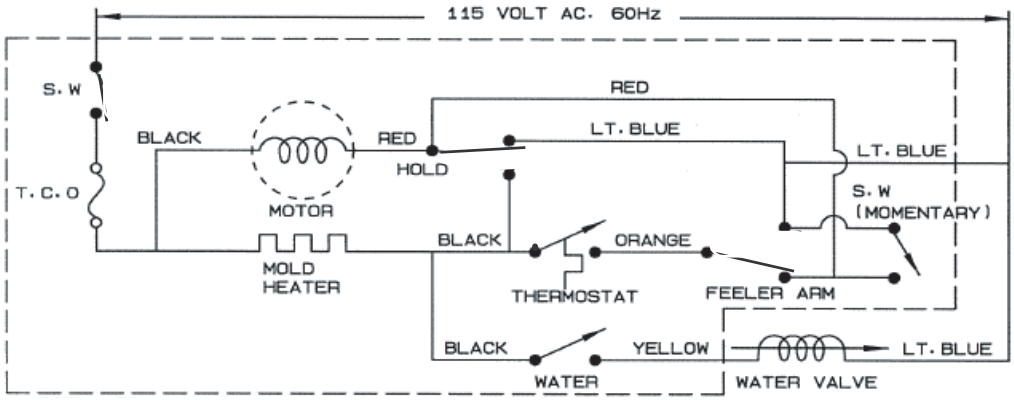
- Ice Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat closed.
- Motor is rotating.
- Mold heating.
- Control Arm swinging up.
- Feeler Arm Switch closed C to NC.
- Hold Switch closed C to NO.
- Water Fill Switch open.

9



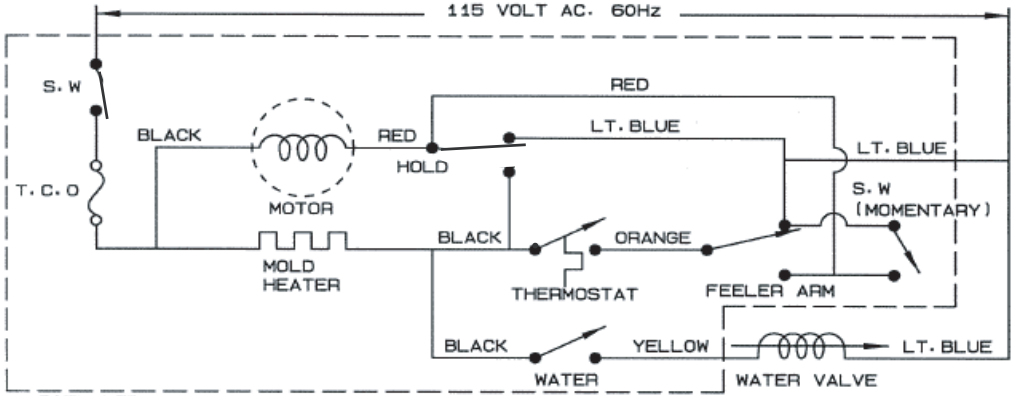
- Maker connected to electricity.
- Mold temperature above 40°F.
- Thermostat opens.
- Motor is rotating.
- Mold heater off.
- Control Arm swinging up.
- Feeler Arm Switch closed C to NC.
- Hold Switch closed C to NO.
- Water Fill Switch open.

10



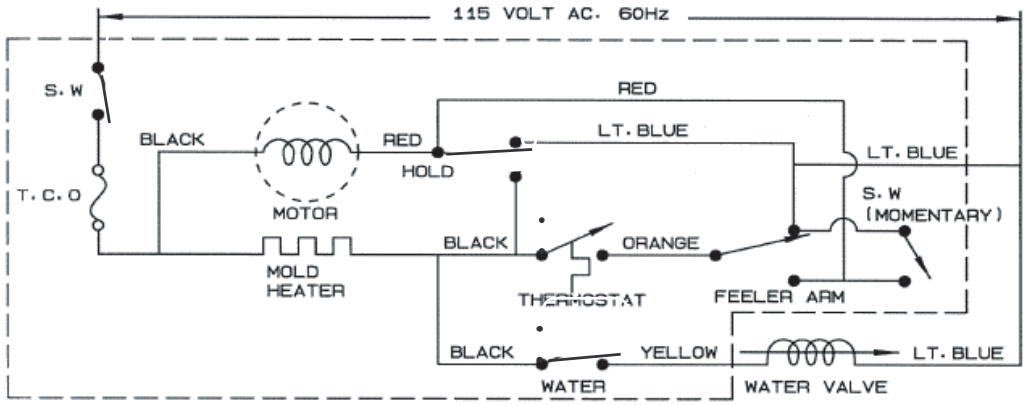
- Ice Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat open.
- Motor is rotating.
- Mold heater off.
- Control Arm swinging down.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NO.
- Water Fill Switch open.

11



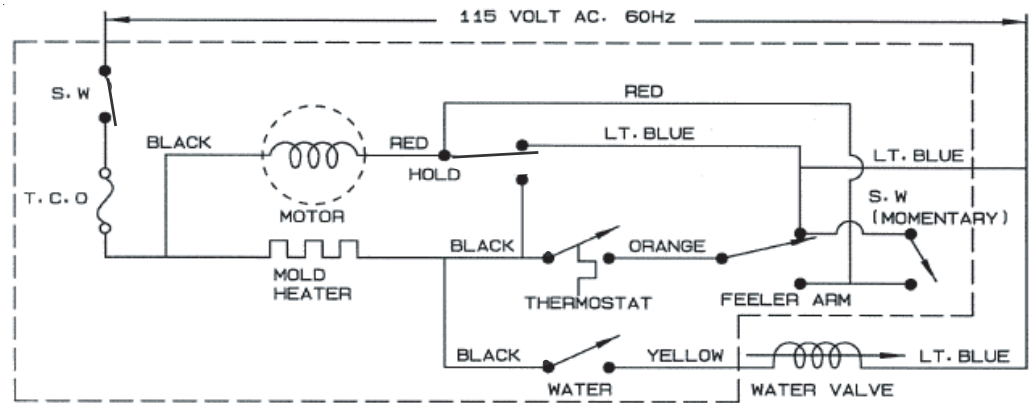
- Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat open.
- Motor is rotating.
- Mold heater is in series with water valve.
- Control Arm swinging down.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NO.
- Water Fill Switch closed.

12



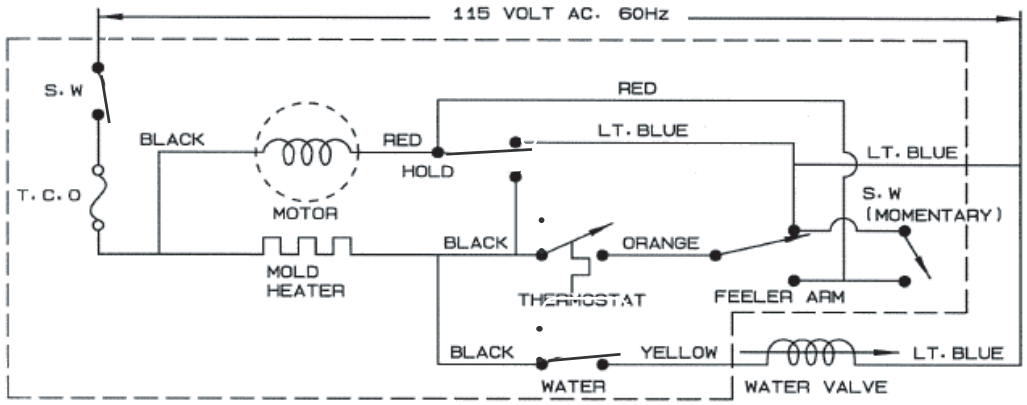
- Ice Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat open.
- Motor is rotating.
- Mold heater off.
- Control Arm swinging down.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NO.
- Water Fill Switch open.

13



- Maker connected to electricity.
- Mold temperature above 9°F.
- Thermostat open.
- Motor not rotating.
- Mold heater off.
- Control Arm down.
- Feeler Arm Switch closed C to NO.
- Hold Switch closed C to NC.
- Water Fill Switch open.

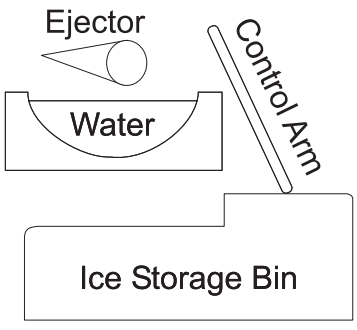
14



Operating Cycle Illustrations - Mechanical

The following diagrams illustrate the mechanical operation of an ice maker.

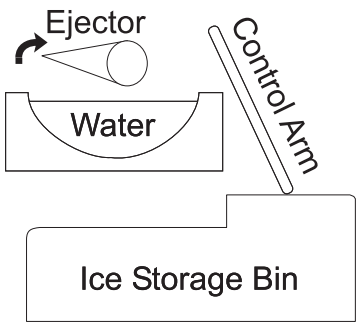
Step 1



Freezer Cycle

1. Mold is filled with water.
2. Thermostat is open.
3. All components are de-energized.

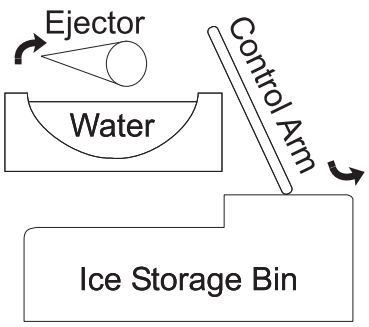
Step 2



Start of Harvest Cycle

1. Thermostat closes.
2. Mold heater & Motor is energized.
3. Ejector begins to turn.

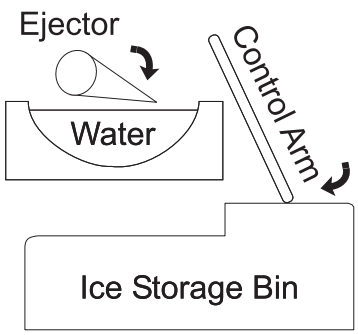
Step 3



Harvest Cycle

1. Holding Switch in normally open position.
2. Heater remains energized.
3. Control Arm is rising.

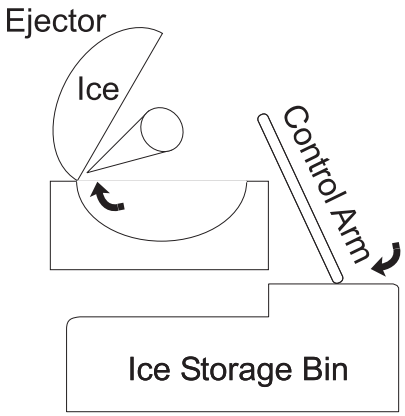
Step 4



Harvest Cycle

1. Ejector reaches ice.
2. Motor stalls until ice loosens.
3. Heater remains energized.

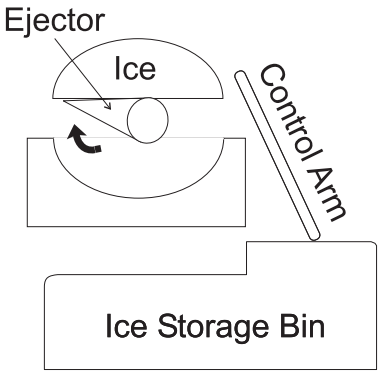
Step 5



Harvest Cycle

1. Completing 1st revolution of Ejector .
2. Water Fill Switch closes, but heater remains on, preventing water fill.

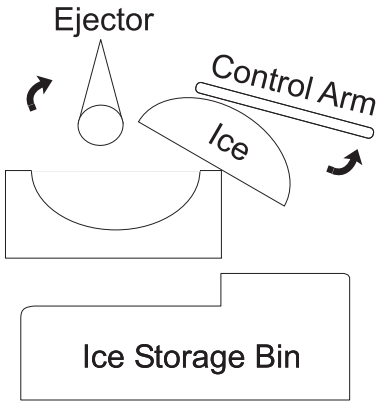
Step 6



Harvest Cycle

1. End of 1st revolution.
2. Hold Switch opens.
3. Since Thermostat is still closed, 2nd revolution of Ejector begins.

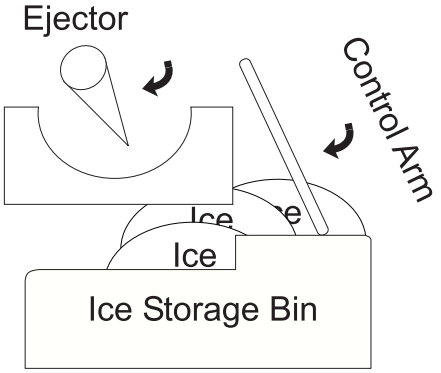
Step 7



Harvest Cycle

1. Hold Switch closes.
2. Motor energizes.
3. Mold Heater remains energized.
4. Control Arm raises and lowers.
5. Ice dumps into bin.

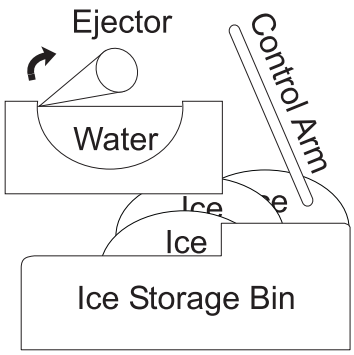
Step 8



End of Harvest Cycle

1. During end of 2nd revolution, Mold Heater resets Thermostat.
2. Mold Heater de-energized.
3. If container is full, Control Arm opens Shut Off Switch.

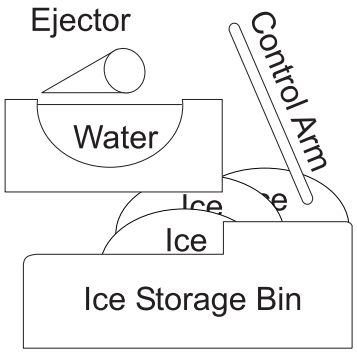
Step 9



Fill Cycle

1. Near completion of 2nd revolution of Ejector, Water Fill Switch closes and water fills mold.

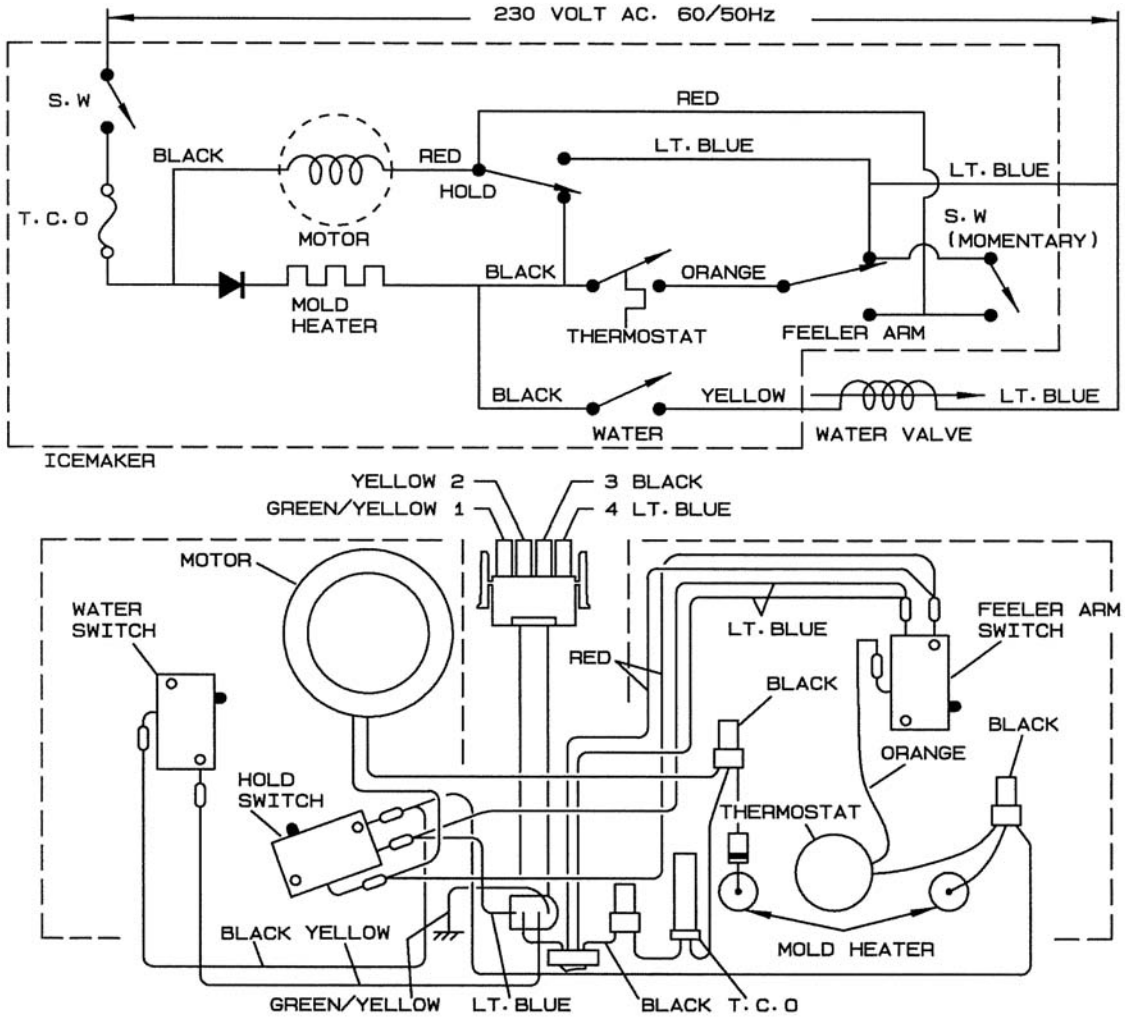
Step 10



End of Fill Cycle

1. Hold Switch goes to normally closed position.
2. Water Fill Switch opens.
3. Freeze Cycle begins.

Ice Maker Electrical Diagram

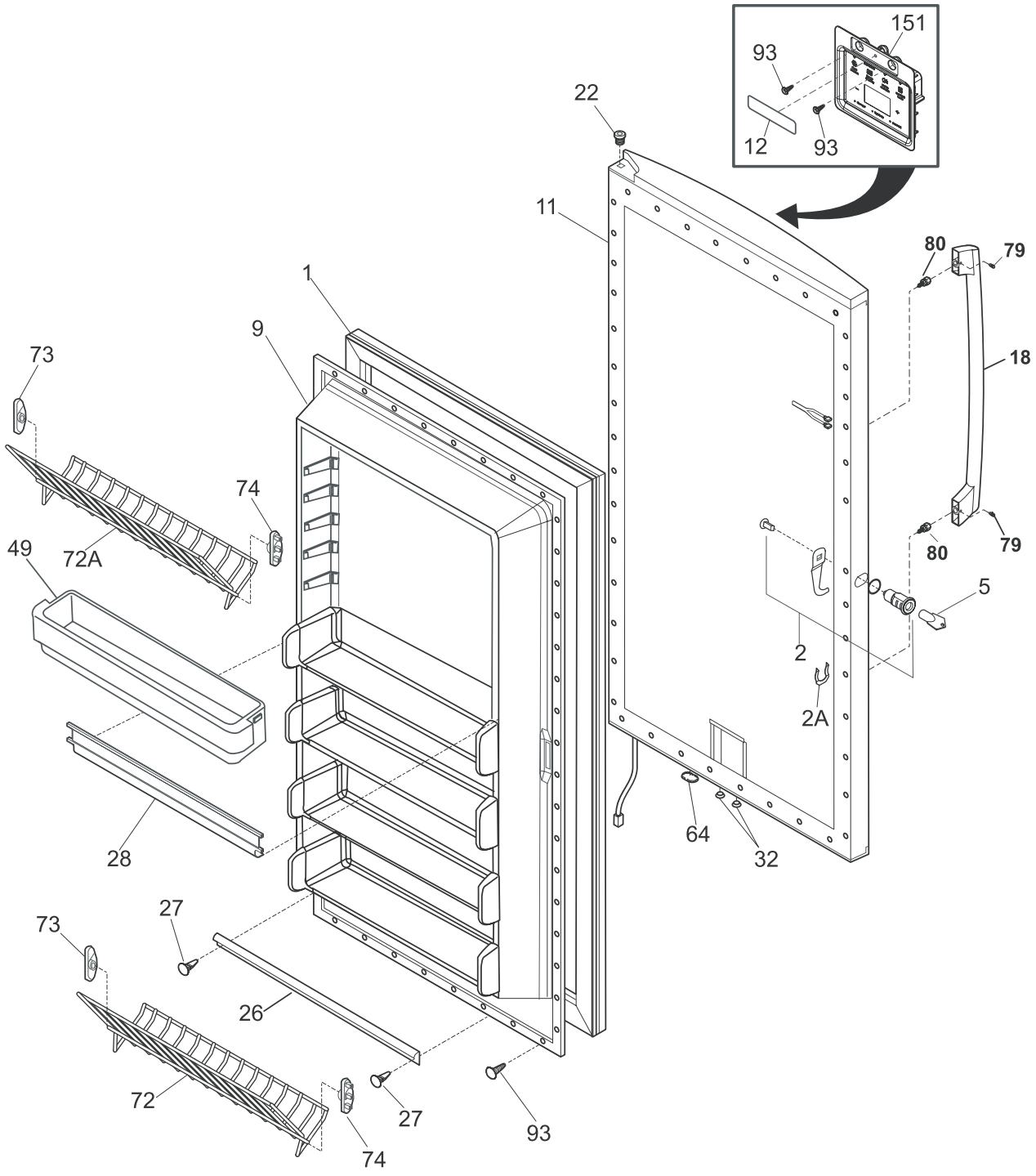


Section 7

Parts Lists and Exploded Views

Electrolux

Door Components EILFU17GS

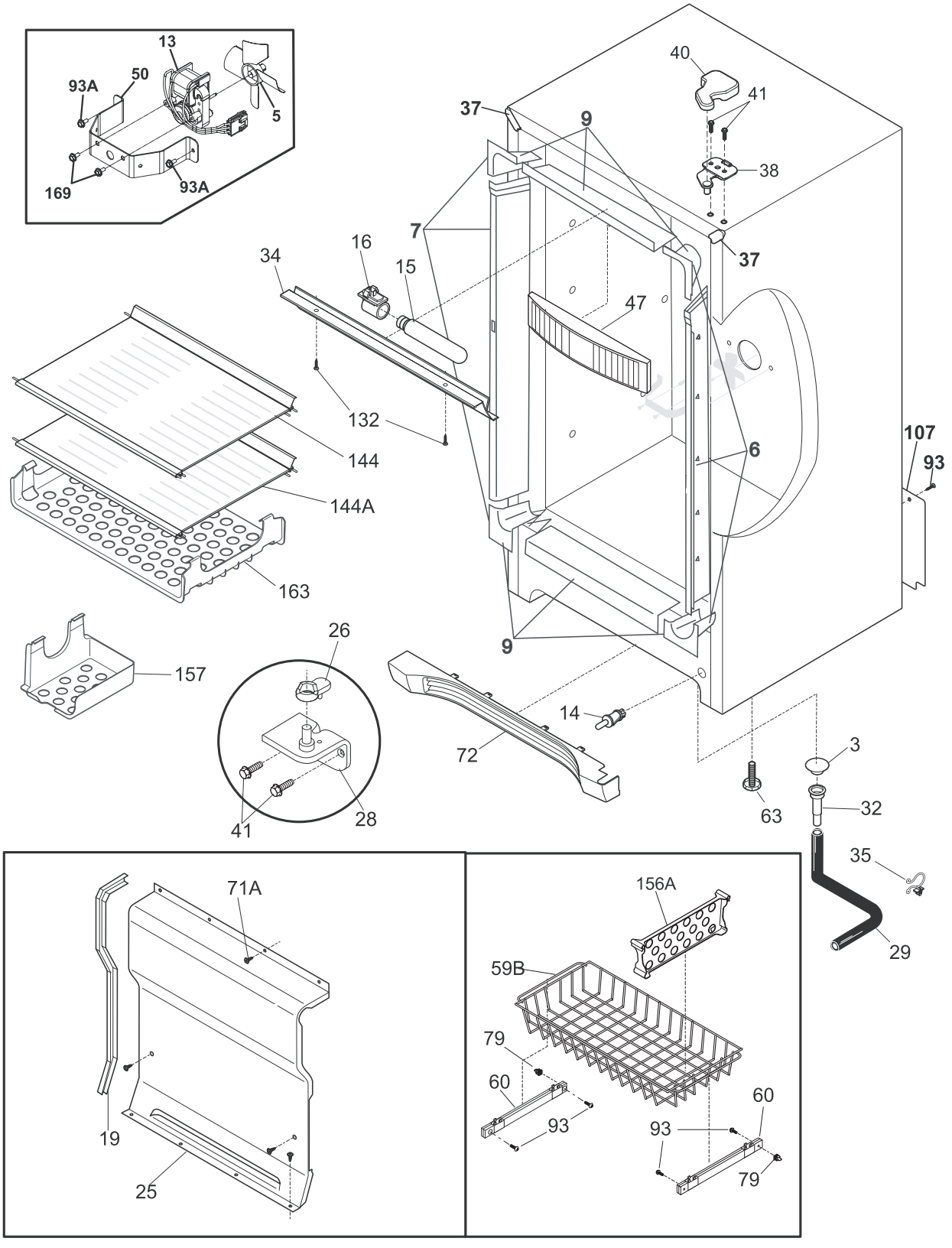


Ref #	Part #	Description
1.	7216522311	Gasket-door, black
2#.	7297090000	Lock Assy
2A.	7297090900	Clip, SPRING
5.	7297147700	Key, lock
9.	7216527903	Panel-inner door, frzr
11.	7297203800	Panel-outer door, stainless
12.	7241873301	Nameplate, Electrolux, stainless
18.	7241761010	Handle
*	7240537301	Nut-anchor, door hdl screw
22.	7216970800	Bearing, hinge w/o'ring, top
26.	7216524200	Gasket, secondary
27.	75303212828	Clip, panel mtg
27*.	75304406520	Clip, panel mtg kit, (40)
28.	7216806103	Rack-door, contour
32.	75309950074	Valve, breather
49.	7216514300	Bin-door, adjustable, (2)
64.	7216403700	Plug-button, hole filler, door base
72.	7297154900	Shelf, tilt out, wire, tall
72A.	7297155000	Shelf, tilt out, wire, short
73.	7216513900	End Cap, shelf, LH, (2), tilt-out
74.	7216514000	End Cap, shelf, RH, (2), tilt-out
79.	7218755401	Screw-set, 10-32 x 0.375
80.	7218755504	Screw-shoulder, #10 AB, handle mounting
93.	75304460605	Screw, ph truss head, 8-18AB x 0.500
151#.	7297166400	Electronic control, assy
*	7297048000	Screw, anchor, #8, white

* Not Illustrated
\# Functional Component

Electrolux

Cabinet Components EILFU17GS



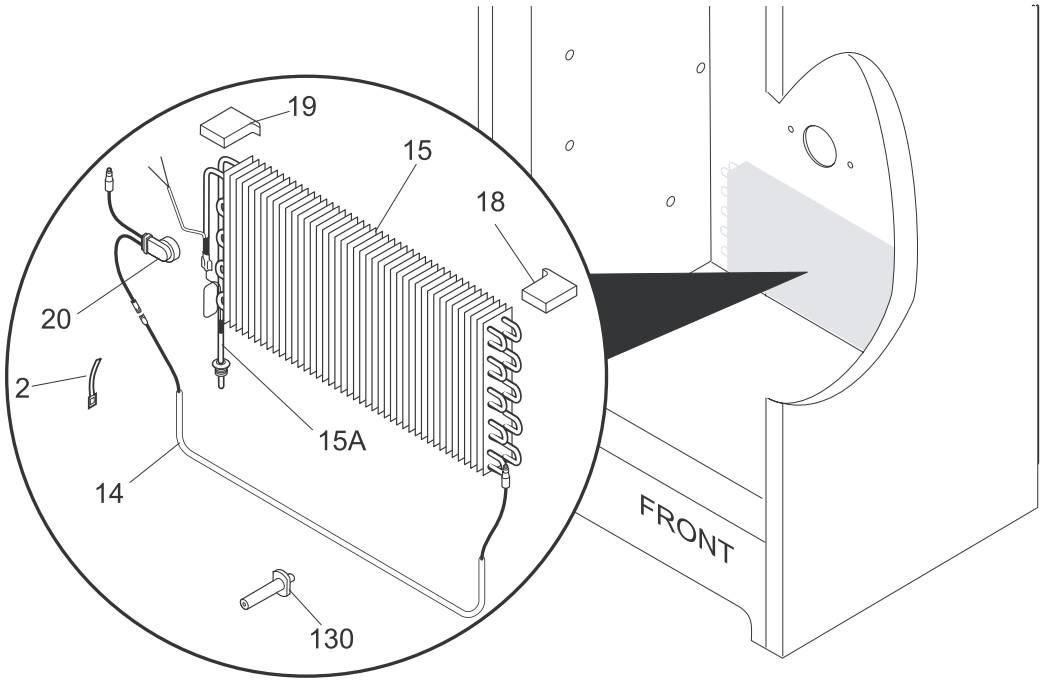
Ref #	Part #	Description
3.	7216503100	Screen-drain
5#.	7216325600	Fan Blade
6.	7297200600	Breaker Kit w/corners, no lock slot
7.	7297200800	Breaker Kit w/corners, incl lock catch
9.	7297200100	Breaker Kit w/corners, 32", top and bottom
13.	7216934100	Motor, fan, 115 V
14.	7216472301	Switch-light plunger
15.	7216988100	Light Bulb/Lamp, long, blue tint, 40 W, 120V .
16.	7216817601	Socket, light/lamp, 25 W
19.	7297078700	Gasket-evap cover RH
19.	7297078800	Gasket-evap cover LH
25.	7297099255	Cover-evaporator
26.	7216503300	Ramp, door closer
28.	7297164500	Hinge, bottom step pin
29.	7216313501	Hose-drain
32.	75308005500	Drain
34.	7297153100	Shield-light
35.	7216273000	Clip, drain hose
37.	7241611303	Trim-cabinet corner, black, (2)
38.	7297154600	Hinge-upper
40.	7297154700	Cover-hinge
41.	7240578902	Screw, hex head, 1/4-20 x 5/8
47.	7297133000	Baffle-plate
50.	7216394050	Bracket, fan motor mount
59B.	7297152900	Basket, shallow, (2)
60.	7297054200	Slide-basket, RH, (2), w/clips
60.	7297054201	Slide-basket, LH, (2), w/clips
*	7297049500	Clip-slide, basket
63.	7216396900	Screw, leveling foot, plastic, adjustable
71A.	7297146800	Screw, 8-18AB x 0.470, EVAP PANEL
72.	7297153200	Grille/Kickplate
79.	73017666	Nut-insert
93.	75304460605	Screw, ph truss head, 8-18AB x 0.500
93A.	7216629601	Screw, hex washer head, 10-16 x 0.500, tapping
107.	7297165400	Shield, compressor, Compartment
132.	75304460601	Screw, 6-20AB x 3/8
144.	7297178105	Shelf-assy, fixed glass, upper, (3)
144A.	7297178106	Shelf-assy, fixed glass, lower
*	7216502400	Grommet-shelf mtg
156A.	7297071801	Divider, basket, (2)
157.	7297071901	Shelf, small items
163.	7297072101	Shelf, pizza
169.	7216912401	Screw, hex washer head, 8-32 x 0.500, bracket fan mtr, (2)
*	7216910405	Energy Guide
*	7297001704	Insulation, 24", drain tube
*	7297013100	Instructions, water line
*	7297048000	Screw, anchor, #8, white

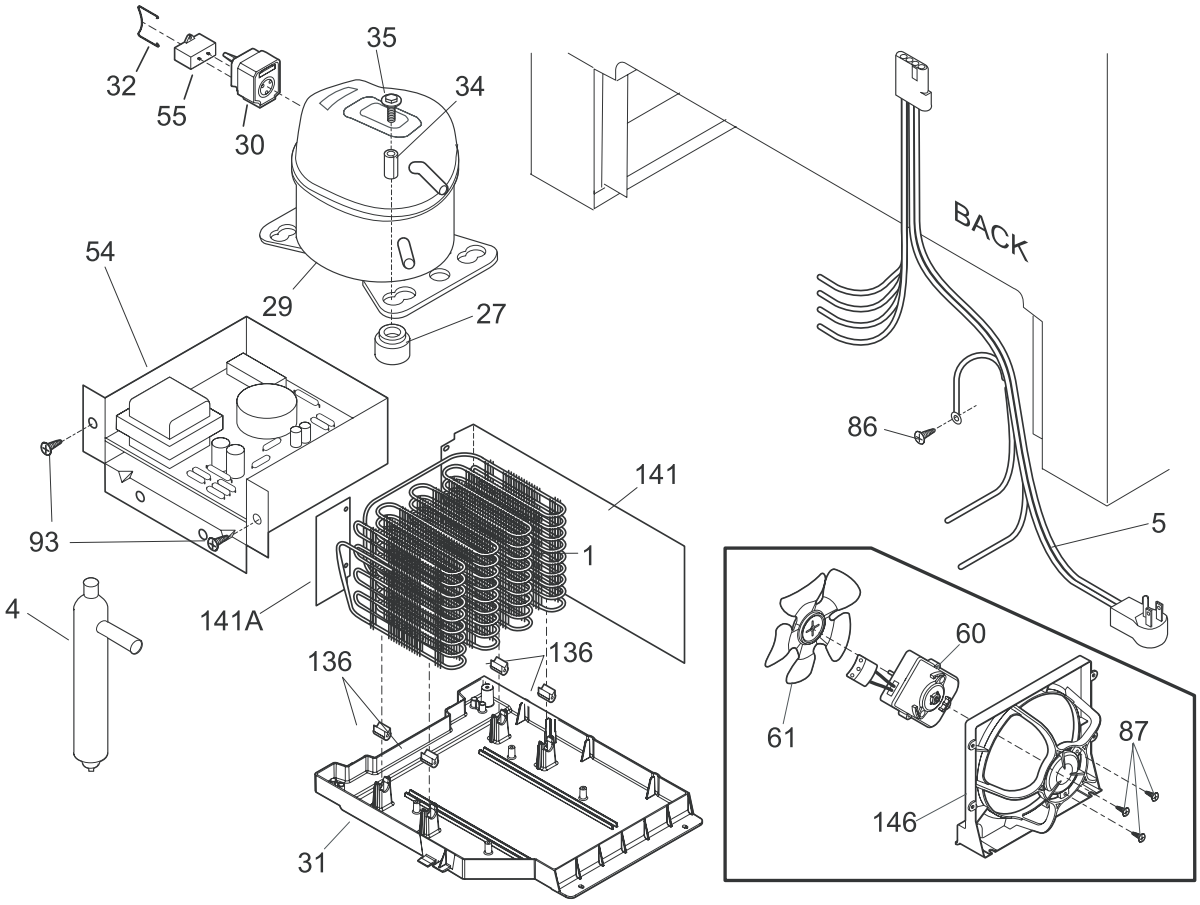
* Not Illustrated

\# Functional Component

Electrolux

System Components EILFU17GS





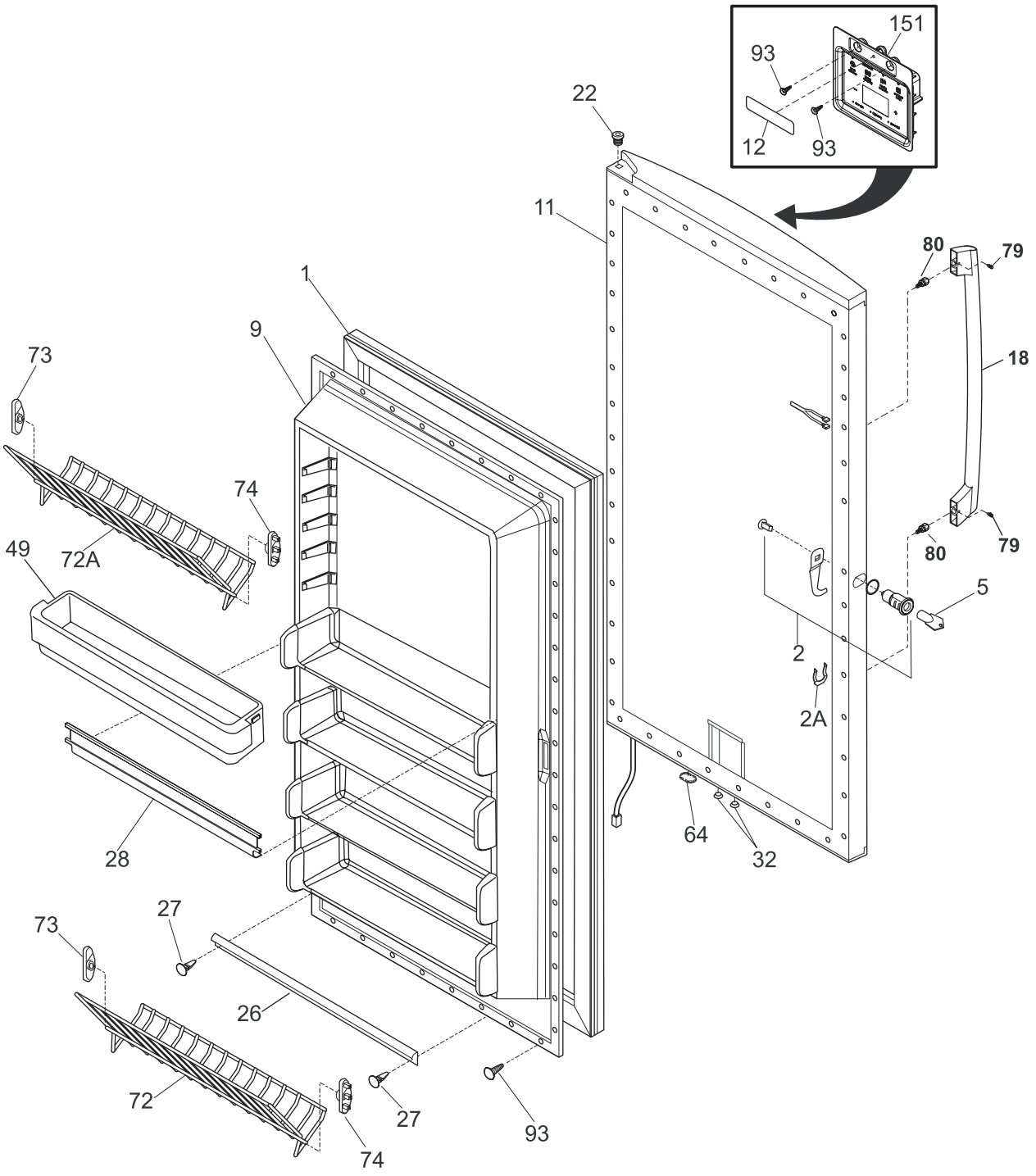
Ref #	Part #	Description
1.	7297152201	Condenser
2.	165546	Strap-evap/heater, aluminum, (2)
4.	7216987500	Drier-filter
5#.	7297173600	Harness-main
14#.	7216730700	Heater-defrost
15#.	7216997300	Evaporator
15A#.	7297217900	Heat Exchanger, suct/cap tube
18.	7297078700	Insulator-evap, styrofoam
19.	7297078800	Insulator-evap, styrofoam
20.	7216872200	Thermostat, defrost
27.	75308002681	Grommet, compressor
29#.	7297068202	Compressor, w/grommets, w/o electricals
30.	7216954212	Controller, compressor
31.	7297165800	Pan-drain
32.	7241544101	Clamp, elec cont mtg, compressor, bale wire
34.	75306594529	Sleeve-compressor
35.	75304460607	Screw, Ind hex sems, 1/4-28 unfx, compressor
54#.	7216979700	Electronics, high voltage
55#.	7218909912	Capacitor, run, 220 VAC, 12 microfarad
60#.	7241584301	Motor-condenser fan
61.	7241639501	Blade-condenser fan
86.	7216036601	Screw, RWHD, 8-32A x 0.500, GX-CA
87.	75304463290	Screw, hi-lo blunt, #8-18X1/2
93.	75304460605	Screw, ph truss head, 8-18AB x 0.500
130.	7216486800	Support, evaporator mtg
136.	7240405201	Grommet, rubber, black, cond tube/wire
141.	7297164200	Divider, air flow
141A.	7297194700	Divider, small, air flow
146.	7297164000	Shroud-fan orifice
*	7216502500	Sleeve, suction line
*	7297014500	Plug-suction line
*	7297018400	Thermistor
*	7297102800	Spacer-tube
* #	7297169901	Cord-power, flat
*	7297048400	Clip

* Not Illustrated

\# Functional Component

Electrolux

Door Components EILFU21GS



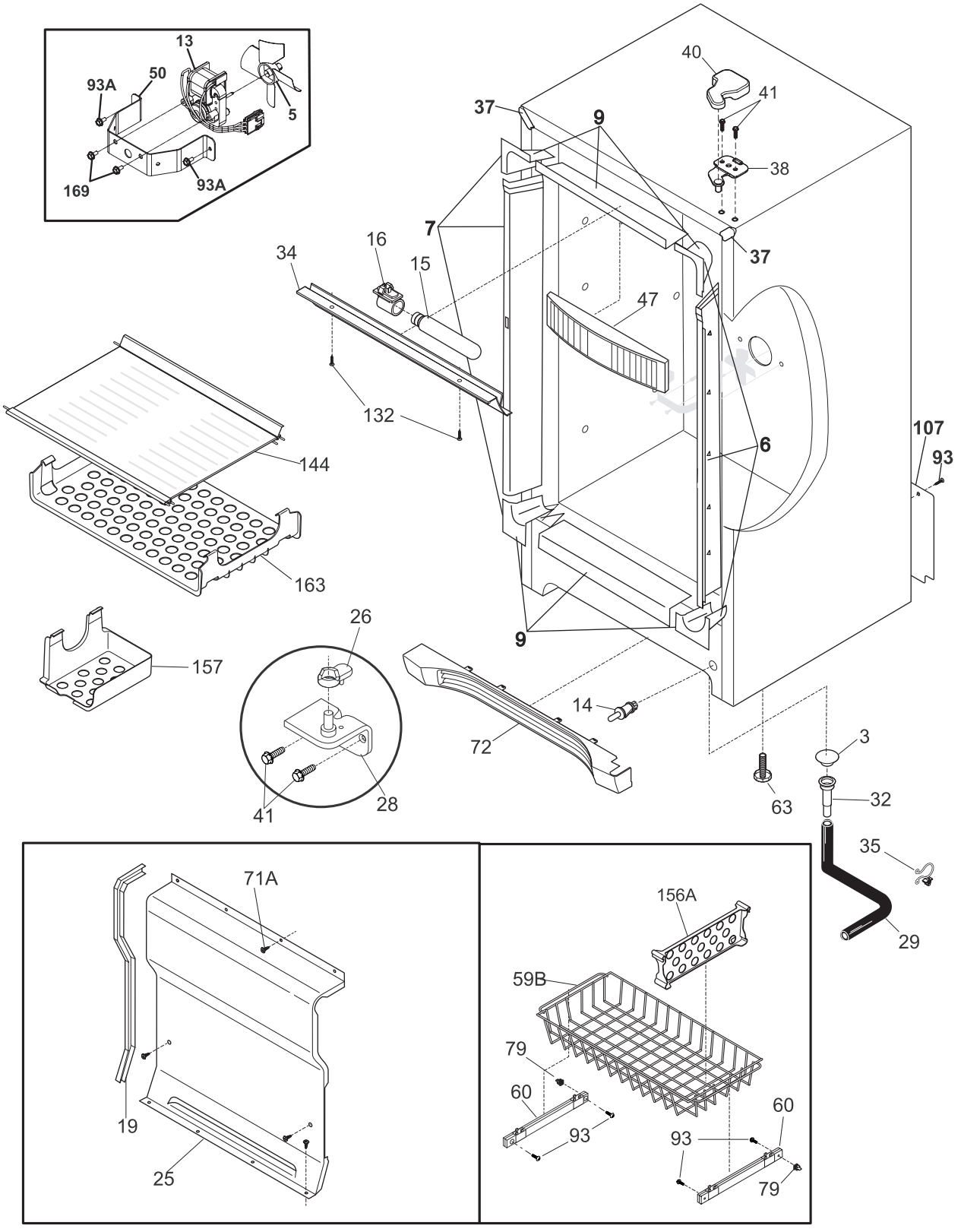
Ref #	Part #	Description
1.	7216522317	Gasket-door, black
2#.	7297090000	Lock Assy
2A.	7297090900	Clip, SPRING
5.	7297147700	Key, lock
9.	7216528201	Panel-inner door, frzr
11.	7297203900	Panel-outer door, stainless
12.	7241873301	Nameplate, Electrolux, stainless
18.	7241761010	Handle
*	7240537301	Nut-anchor, door hdl screw
22.	7216970800	Bearing, hinge w/o'ring, top
26.	7216524200	Gasket, secondary
27.	75303212828	Clip, panel mtg
27*.	75304406520	Clip, panel mtg kit, (40)
28.	7216806103	Rack-door, contour
32.	75309950074	Valve, breather
49.	7216514300	Bin-door, adjustable, (2)
64.	7216403700	Plug-button, hole filler, door base
72.	7297154900	Shelf, tilt out, wire, tall
72A.	7297155000	Shelf, tilt out, wire, short
73.	7216513900	End Cap, shelf, LH, (2), tilt-out
74.	7216514000	End Cap, shelf, RH, (2), tilt-out
79.	7218755402	Screw-set, 10-32 x 0.375
80.	7218755504	Screw-shoulder, #10 AB, handle mounting
93.	75304460605	Screw, ph truss head, 8-18AB x 0.500
151#.	7297166400	Electronic control, assy
*	7297048000	Screw, anchor, #8, white

* Not Illustrated

\# Functional Component

Electrolux

Cabinet Components EILFU21GS



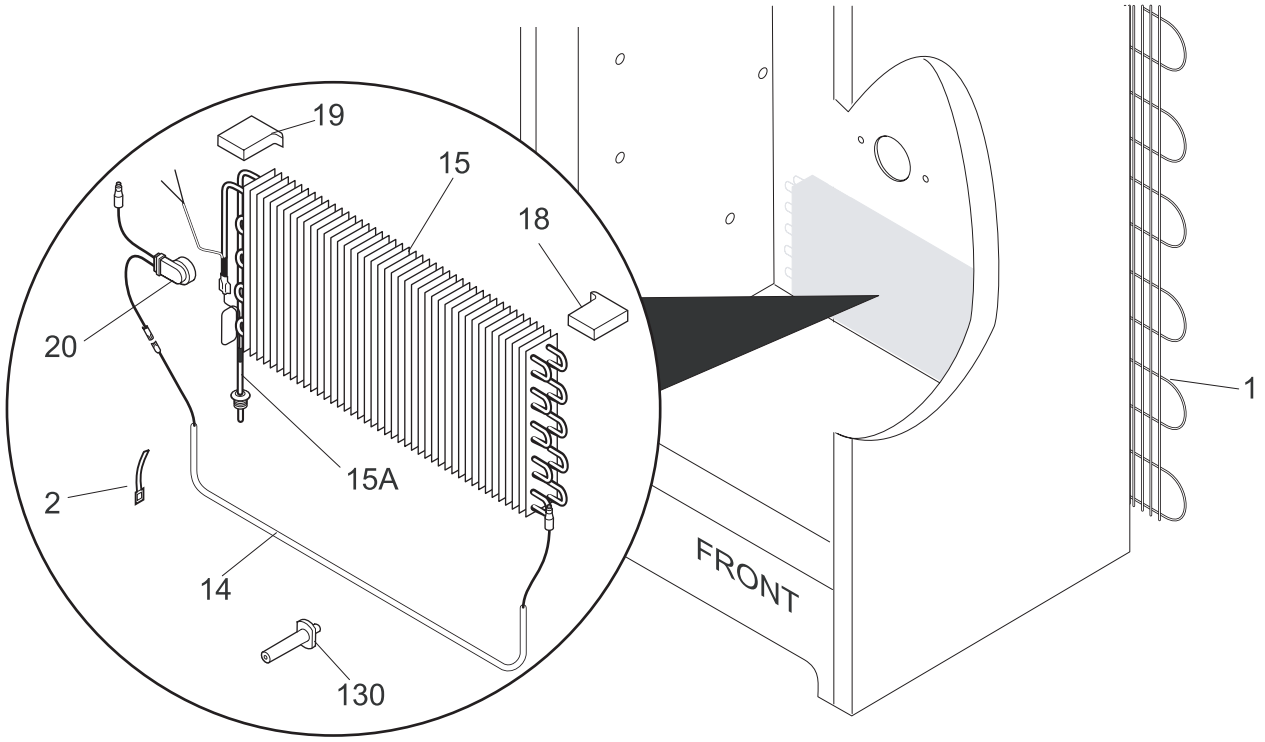
Ref #	Part #	Description
3.	7216503100	Screen-drain
5#.	7216325600	Fan Blade
6.	7297200900	Breaker Kit w/corners
7.	7297201100	Breaker Kit w/corners, incl lock catch
9.	7297200100	Breaker Kit w/corners, 32", top and bottom
13.	7216934100	Motor, fan, 115 V
14.	7216472301	Switch-light plunger
15.	7216988100	Light Bulb/Lamp, long, blue tint, 40 W, 120V .
16.	7216817601	Socket, light/lamp, 25 W
19.	7297078700	Gasket-evap cover RH
19.	7297078800	Gasket-evap cover LH
25.	7297099255	Cover-evaporator
26.	7216503300	Ramp, door closer
28.	7297164500	Hinge, bottom step pin
29.	7216313503	Hose-drain
32.	75308005500	Drain
34.	7297153100	Shield-light
35.	7216273000	Clip, drain hose
37.	7241611303	Trim-cabinet corner, black, (2)
38.	7297154600	Hinge-upper
40.	7297154700	Cover-hinge
41.	7240578902	Screw, hex head, 1/4-20 x 5/8
47.	7297133000	Baffle-plate
50.	7216394050	Bracket, fan motor mount
59B.	7297152900	Basket, shallow, (2)
60.	7297054200	Slide-basket, RH, (2), w/clips
60.	7297054201	Slide-basket, LH, (2), w/clips
*	7297049500	Clip-slide, basket
63.	7216396900	Screw, leveling foot, plastic, adjustable
71A.	7297146800	Screw, 8-18AB x 0.470, EVAP PANEL
72.	7297153200	Grille/Kickplate
79.	73017666	Nut-insert
93.	75304460605	Screw, ph truss head, 8-18AB x 0.500
93A.	7216629601	Screw, hex washer head, 10-16 x 0.500, tapping
107.	7297194800	Panel, access
132.	75304460601	Screw, 6-20AB x 3/8
144.	7297178107	Shelf-assy, fixed, glass, (4), complete
*	7216502400	Grommet-shelf mtg
156A.	7297071801	Divider, basket, (2)
157.	7297071901	Shelf, small items
163.	7297072101	Shelf, pizza
169.	7216912401	Screw, hex washer head, 8-32 x 0.500, bracket fan mtr, (2)
*	7216977203	Energy Guide
*	7297001704	Insulation, 24", drain tube
*	7297013100	Instructions, water line
*	7297048000	Screw, anchor, #8, white

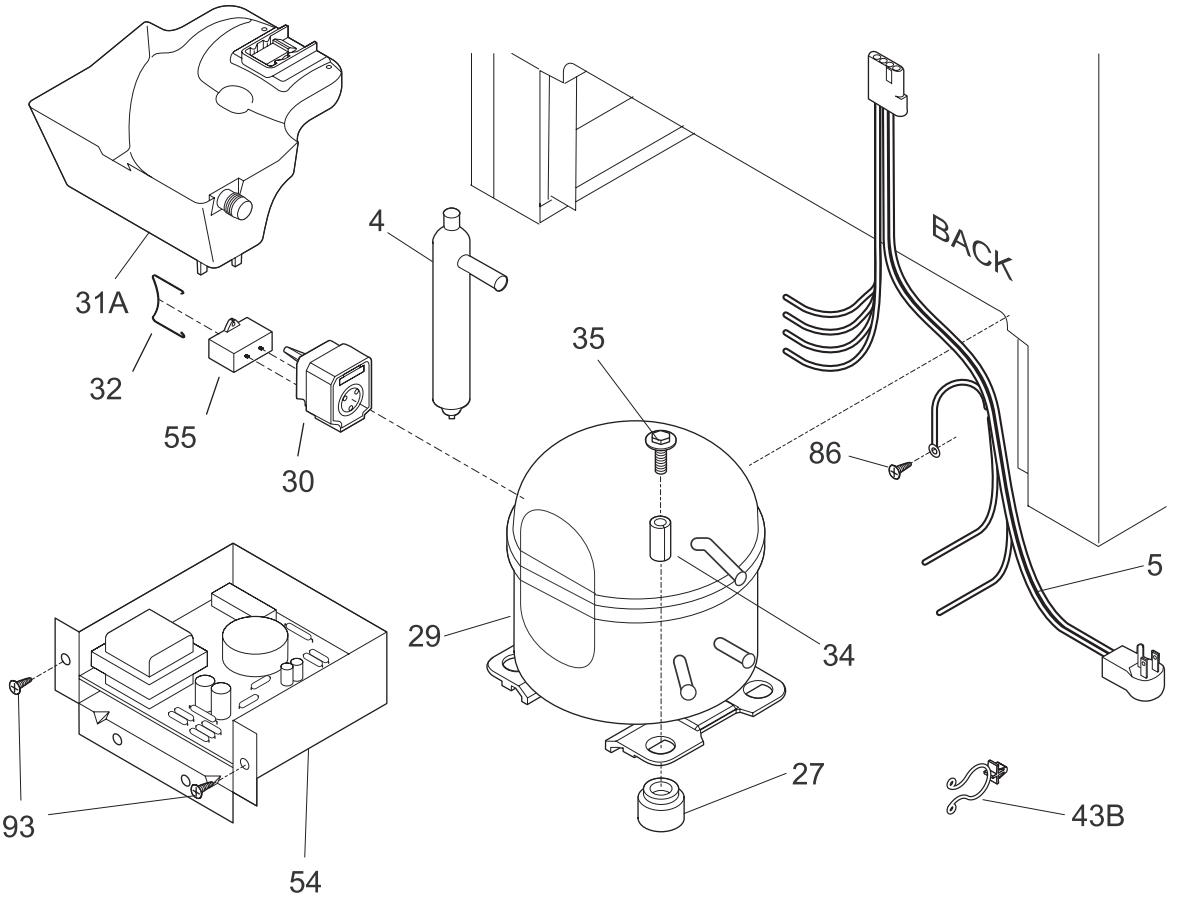
* Not Illustrated

\# Functional Component

Electrolux

System Components EILFU21GS



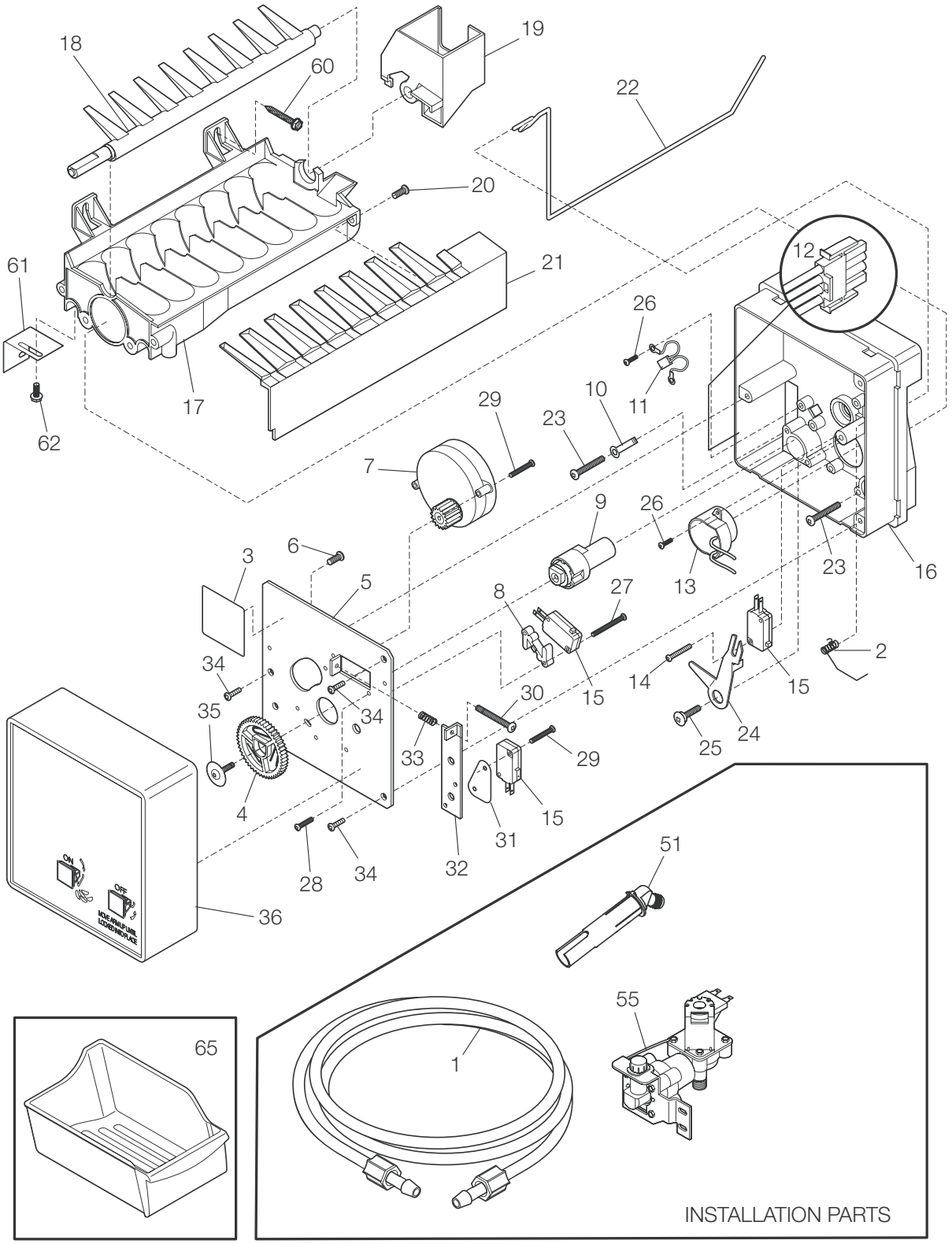


Ref #	Part #	Description
1.	75300083897	Condenser
2.	165546	Strap-evap/heater, aluminum, (2)
4.	7216987500	Drier-filter
5#.	7297170300	Harness-main
14#.	7216730700	Heater-defrost
15#.	7216997300	Evaporator
15A#.	7297217900	Heat Exchanger, suct/cap tube
18.	7297078700	Insulator-evap, styrofoam
19.	7297078800	Insulator-evap, styrofoam
20.	7216872200	Thermostat, defrost
27.	75308002681	Grommet, compressor
29#.	7297068202	Compressor, w/grommets, w/o electricals
30.	7216954212	Controller, compressor
31A.	7216994100	Pan-drain
32.	7241544101	Clamp, elec cont mtg, compressor, bale wire
34.	75306594529	Sleeve-compressor
35.	75304460607	Screw, Ind hex sems, 1/4-28 unfx, compressor
43B.	7297048400	Clip
54#.	7216979700	Electronics, high voltage
55#.	7218909912	Capacitor, run, 220 VAC, 12 microfarad
86.	7216036601	Screw, RWHD, 8-32A x 0.500, GX-CA
93.	75304460605	Screw, ph truss head, 8-18AB x 0.500
130.	7216486800	Support, evaporator mtg
*	7216502500	Sleeve, suction line
*	7297014500	Plug-suction line
*	7297018400	Thermistor
*	7297102800	Spacer-tube
* #	7297169901	Cord-power, flat

* Not Illustrated

\# Functional Component

Icemaker Components



Ref #	Part #	Description
1.	7297044900	Tube-water inlet, inlet valve, to ice maker
1*.	7240561701	Seal-water inlet, inlet valve, to ice maker
2.	75304456650	Spring-shutoff arm, ice maker
3.	75304456657	Nameplate
4.	75304456658	Gear
5.	75304456659	Plate-mounting
6.	75304456691	Screw, M 3x20 #3, valve plate
7#.	75304445222	Motor-ice maker Svo
7*.	75304445223	Spring Beam
8.	75304456661	Spacer-hold switch
9.	75304456662	Cam
10.	75304456689	Washer, nylon
11#.	75304456663	Thermal Cutoff, ice maker, complete assy
12.	75304456664	Harness-wiring
13.	75304456665	Thermostat, ice maker
14.	75304455676	Screw, plask, 4x14x3/4
15#.	75304456667	Switch-micro, (3)
16.	75304456668	Support
17.	75304456669	Mold-ice maker, w/therm cut off
18.	75304456670	Ejector-ice
18*.	7240352602	Wiring Harness, internal, wiring harness
19.	75304456671	Bearing & Inlet, fill cup
20.	75304455677	Screw, 8-32 x 3/8
21.	75304456672	Ice Stripper
22.	75304456673	Shut-off Arm
23.	75304456674	Screw, M 4x25 #2, mold-to-support, (2)
24.	75304456675	Lever Arm
25.	75304456676	Screw, M 4x12.8 #2, lever arm/sprt
26.	75304455680	Screw, plask, 4-14 x 3/8
27.	75304456677	Screw, M 3x25 #3, hold switch mtg, (2)
28.	75304456660	Screw, M 4x6 #2
29.	75304456678	Screw, M 3x12 #3, (2)
30.	75304456679	Screw-timing adj, M 4x25 #3
31.	75304456680	Insulator
32.	75304456681	Plate-valve switch
33.	75304456682	Spring, timing adjust
34.	75304456683	Screw, M 4x12 #2, (3)
35.	75304456684	Screw
36.	75304456685	Cover-ice maker
36*.	75304456690	Label, ID plate
51.	7216887500	Tube, water, ice maker
55#.	7240519601	Valve-water, single solenoid, 60 Hz, 105/120 V
60.	75304455852	Screw, hex washer head, 8-15A x 1.000
61.	75304456686	Bracket-leveling, ice maker
62.	75304456687	Screw-IM brkt mtg, pan hd phillips, 8-32T x 0.375
65.	7240385201	Container, ice bin
*	7241642503	Ice Maker, radius cube, 115 V, Svce
*	7241642601	Harness-wiring Svo
*	7241806601	Connector-water, straight
*	75304456666	Screw, M 3x20 #2, (6)
*	75304456688	Terminal
*	75304456692	Washer
*	75304456693	Nut, M 3.5
*	75304456737	Washer

* Not Illustrated

\# Functional Component

Notes

Section 8

Troubleshooting

Problem	Cause	Correction
Freezer compressor does not run.	Freezer is plugged into a circuit that has a ground fault interrupt.	Use another circuit. Check circuit for proper voltage.
	Temperature control is in the "OFF" position.	Set control to a temperature setting. Instruct customer.
	Freezer may not be plugged in, or plug may be loose.	Ensure plug is tightly pushed into outlet.
	House fuse blown or tripped circuit breaker.	Check/replace fuse with a 15 amp time delay fuse. Reset circuit breaker.
	Power outage.	Check house lights. Call local Electric Company.
Freezer runs too much or too long.	Room or outside weather is hot.	It's normal for the Freezer to work harder under these conditions.
	Freezer has recently been disconnected for a period of time.	It takes 24 hours for the Freezer to cool down completely.
	Large amount of warm or hot food have been stored recently.	Warm food will cause Freezer to run more until the desired temperature is reached.
	Door is opened too frequently or kept open too long.	Warm air entering the Freezer causes it to run more. Open the door less often.
	Freezer door may be slightly open.	See Problem section "Door will not close".
	Temperature control is set too low.	Set control to a warmer setting. Allow several hours for the temperature to stabilize.
	Freezer gaskets are dirty, worn, cracked or poorly fitted.	Clean or change gasket. Leaks in the door seal will cause Freezer to run longer in order to maintain desired temperature.
Interior Freezer temperature is too cold.	Temperature control is set too low.	Set control to a warmer setting. Allow several hours for the temperature to stabilize.
Interior Freezer temperature is too warm.	Temperature control is set too warm.	Set control to a colder setting. Allow several hours for the temperature to stabilize.
	Door is opened too frequently or kept open too long.	Warm air entering the Freezer causes it to run more. Open the door less often.
	Freezer door may be slightly open.	See Problem section "Door will not close".
	Large amount of warm or hot food have been stored recently.	Wait until the Freezer has had a chance to reach its selected temperature.
	Freezer has recently been disconnected for a period of time.	Freezer requires 24 hours to cool down completely.
Freezer external surface temperature is warm.	The external Freezer walls can be as much as 30°F warmer than room temperature.	This is normal while the compressor works to transfer heat from inside the Freezer cabinet.

Problem	Cause	Correction
Louder sound levels whenever Freezer is on.	Modern Freezers have increased storage capacity and more stable temperatures. They require heavy duty compressors.	This is normal. When the surrounding noise level is low, you might hear the compressor running while it cools the interior.
Louder sound levels when compressor comes on.	Freezer operates at higher pressures during the start of the ON cycle.	This is normal. Sound will level off or disappear as Freezer continues to run.
Popping or cracking sound when compressor comes on.	Metal parts undergo expansion and contraction, as in hot water pipes.	This is normal. Sound will level off or disappear as Freezer continues to run.
Bubbling or gurgling sound.	Refrigerant used to cool Freezer is circulating throughout system.	This is normal.
Vibrating or rattling noise.	Freezer is not level. It rocks on the floor when it is moved slightly.	Level the Freezer.
	Floor is uneven or weak.	Ensure floor can adequately support Freezer. Level the Freezer by putting wood or metal shims under part of the Freezer.
	Freezer is touching the wall.	Re-level Freezer or move Freezer slightly.
Moisture forms on inside Freezer walls.	Weather is hot and humid, which increases internal rate of frost build-up.	This is normal.
	Door is slightly open.	See Problem section "Door will not close".
	Door is opened too frequently or kept open too long.	Open the door less often.
Odors in Freezer.	Interior needs to be cleaned.	Clean interior with sponge, warm water, and baking soda. Replace air filter.
	Foods with strong odors are in the Freezer.	Cover the food tightly.
Door will not close.	Freezer is not level. It rocks on the floor when it is moved slightly.	This condition can force the cabinet out of square and misalign the door. Level unit.
	Floor is uneven or weak.	Ensure floor can adequately support Freezer. Level the Freezer by putting wood or metal shims under part of the Freezer.
Light bulb is not on.	The fluorescent lamp or light bulb is burned out.	Replace lamp or light bulb.
	No electric current is reaching the Freezer.	See Problem section "Freezer compressor does not run" on previous page.

Problem	Cause	Correction
Ice maker is not making any ice.	Ice maker power switch is Off.	Turn on power switch.
	Water supply is not connected to refrigerator.	Connect water supply (see Installation Instructions).
	Household water line valve is not open.	Turn on household water line valve.
	Freezer is not cold enough.	See Problem section, Cabinet temperature not within limits on next page.
	Valve on cold water pipe is clogged or restricted by foreign material. If valve is of the self-piercing type, it may not have created a sufficiently sized hole in tube for water to pass through.	Turn off household water line valve. Remove valve. Ensure that valve is not a self-piercing valve. Clean valve. Replace valve if necessary.
Ice maker is not making enough ice.	Ice maker is producing less ice than you expect.	Ice maker should produce approximately 4-5 pounds of ice every 24 hours. Fast Ice should produce up to 6 pounds of ice every 24 hours.
	Freezer is not cold enough.	See Problem section, Cabinet temperature not within limits on next page.
	Household water line valve is not completely open.	Turn on household water line valve.
Ice maker will not stop making ice.	Ice maker wire signal arm is being held down by some item in the freezer.	Move item and release wire signal arm. Remove any ice cubes frozen together over wire signal arm.
Ice maker is not separating the ice cubes.	Ice cubes are not being used frequently enough.	Remove and shake ice bin to separate cubes.
	Ice cubes are hollow or smaller than normal.	Check water supply .
Ice has bad odor and taste.	Ice has picked up odor or flavor from strong food stored in refrigerator or freezer.	Cover foods tightly. Discard stale ice. Ice maker will produce fresh supply.
	Ice not used frequently enough.	Discard stale ice.

The following table relates to troubleshooting the electronic control and associated components.

Problem	Cause	Correction
Compressor does not run.	1. Do any of the LED's on the control illuminate?	Yes. Go to step 2. No. Check power to freezer and make sure unit is plugged in.
	2. Is the temperature control set to off?	Yes. Set temperature control lower. No. Go to step 3.
	3. Remove interface from the door and disconnect the wire harness from the interface. Measure the voltage between the brown and orange wires in the plug. Is the reading greater than 4.3VDC?	Yes. Go to step 4 No. Go to step 5.
	4. Is the voltage greater than 5.7VDC.	Yes. Replace defective electronic module. No. Replace user interface. If problem is not corrected replace electronic module.
	5. Disconnect the user interface cable from the electronic module. Measure the voltage between the red wire and the black wire in the harness plug that is connected to the electronic module. Is the voltage 0.3VDC greater than the voltage reading in step 3.	Yes. open wire or connection. Check all connections and wiring. If defects cannot be found, replace door. No. Replace defective electronic module.
User interface display shows "CE". This indicates a communication error between the user interface and electronic module.	1. Check the connectors in the wiring between the user interface and electronic module. Is there a wiring problem?	Yes. Correct wiring problem. No. Go to step 2.
	2. Replace the user interface. Does this correct the problem?	Yes. Problem solved. No. Go to step 3.
	3. Replace electronic module. Does this correct the problem?	Yes. Problem solved. No. Recheck wiring. If problem still exists, replace the door.
Cabinet temperature not within limits.	1. Initiate service mode and check thermistor. What appears in the display?	If "C" or "O" appear in the display, replace thermistor. If "-" appears in the display, replace electronic module.
Freezer does not go into fast freeze mode when the fast freeze key is pushed.	1. Check wiring and the connections between the user interface and electronic module. Is the wiring defective?	Yes. Correct wiring problem. No. Replace interface board. If problem is not corrected, replace electronic module.
Alarm system does not sound when freezer temperature is above 23°F.	1. Does either the alarm sound or the indicator light illuminate?	Yes. If the indicator light illuminates, but the alarm does not sound, replace electronic module. If alarm sounds but light does not illuminate, replace the user interface. If problem is not corrected, replace electronic module. No. Replace electronic module.

Problem	Cause	Correction
Freezer interior light does not illuminate when door is opened.	1. Program to control for the service mode and check door switch contacts with the door open. Does the display show “C” or “O”?	If the display shows “O” the light bulb or wiring is defective. If the display shows “C” the door switch is defective.
Door ajar alarm does not operates.	1. Program to control for the service mode and check the door switch contacts with the door open. Does the display show “O”.	Yes. Replace electronic module. No. Replace door switch.
Compressor and evaporator fan motor do not run.	1. Does the display show the internal temperature of the freezer? 2. Disconnect the wire harness from the compressor controller and measure voltage drop between the two pins in the harness. Does the meter read line to neutral voltage or zero?	Yes. Go to step 2. No. Refer to User interface display shows “CE” on prior page. If the meter reads line to neutral voltage, the evaporator fan motor is defective and either the controller or the compressor is also defective. If the meter reads zero, the electronic module is defective.
The compressor runs but the evaporator fan does not.	1. Is the evaporator fan blocked or restricted?	Yes. Remove the restriction. No. Replace evaporator fan motor.
The evaporator fan motor runs but the compressor does not.	1. Check compressor and compressor controller.	Replace defective item.
Freezer does not automatically defrost.	1. Program the control for a manual defrost. Does the defrost operate? 2. Disconnect the orange wire from the defrost thermostat and the white wire from the defrost heater. Measure the resistance between the wire on the thermostat and the wire at the end of the heater. Is the reading about 25 omhs? 3. Disconnect defrost thermostat from the defrost heater and measure the resistance of the defrost heater. Is the reading about 25 omhs?	Yes. Replace electronic module. No. Go to step 2. Yes. Replace electronic module. No. Go to step 3. Yes. replace defrost thermostat. No. Replace defrost heater.

Section 9

Wiring Diagrams

Electrolux

EILFU17GS & EILFU21GS